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FACING REALITIES

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The people throughout the world have acknowledged the great technological achievement of man. Science as a whole has created many new facilities for man's comfort and pleasure. It has established new criteria for human existence, including better education, health, housing and so forth. Yet, with all these progressive and useful facilities of life, men have not reached the goal of their purpose in life. The greatest desire of the individual is happiness within himself and in his environment. Such happiness can be achieved only through knowledge of oneself and his surroundings. It is true that modern psychology and psychiatry have contributed the necessary tools for such a knowledge and understanding. Nevertheless, if we look realistically at the present statistical data, particularly those compiled by the Hospital Committee of the Group for the Advancement of Psychiatry, we should disagree with optimistic views of politicians and those who wish to blindfold us with secondary tools for happiness, and should become concerned and pay more attention to an integrated research for human happiness.

According to the statistics the estimated number of psychiatric cases in the United States is close to 9,000,000 and there are approximately 700,000 mentally ill in public mental hospitals. There are approximately 200,000 new patients who are admitted to psychiatric hospitals yearly; there is one divorce out of every three marriages and approximately 2,000,000 juvenile crimes committed yearly. 200,000 die yearly or become totally disabled due to accidents and 900,000 are partially disabled. There are about six to seven million who are alcoholics. The cost in disease, crime, property damage directly due to alcohol equals to $750,000,000 annually. There are untold numbers of narcotic and sedative addicts. With all this statistical data we are apparently optimistically inclined toward the present situation of human existence and advocating the continuance of the same unrealistic methods of solving human problems.

It is true that persons begin life with certain inherent traits and tendencies. Comparatively very few are born as a diseased "whole." In order for the individual with such a background to achieve successfully his goal in life he must have surroundings which can help him to withstand the daily shocks and blows of his environment. To learn the application of his native talents he has to have guidance and direction of his parents, teachers and others who become the child's immediate environment. Therefore, it is obvious that you cannot expect such adjustment of the child unless you have available adequately trained and understanding parents and teachers. In the past it has been a vicious circle. The child having a very unfortunate, undesirable home environment created by parents and relatives, goes to school and finds himself surrounded also by maladjusted teachers, who do not help the already confused child. This is the beginning of the child's future maladjustment which may end with serious emotional and mental outbursts.

It seems to me that there should be research on a national scale on the matters pertaining the education of the parents and teachers of our children.

In recent years we have become increasingly aware of the problems of mental health and mental illness. We also recognize the fact that it is necessary to go beyond the problem of the acutely ill for the purpose of prevention. In other words we are concerned now more about mental health of the so-called normal people.

It is true that we have to make all the necessary provisions for early treatment of

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the recognized acutely mentally ill and that such care and treatment should be established adequately in all public mental hospitals as well as in large general hospitals. However, mental hygiene activities should go into the routine of kindergartens, public schools, industry, the public sphere of activities, and the homes of the families.

When a child is found, through various facilities such as clinics, schools, family physicians, pediatricians, various social agencies, church, juvenile and family courts and others interested in the welfare of the child, not responding to extra-mural treatment, he should be hospitalized in a psychiatric preventive Center where a well organized team, composed of psychiatrist, pediatrician, psychologist, social worker, educator and others, will tackle the problem intelligently and understandingly.

While the child is under treatment in the Center, plans for his future socialization in the community must be worked out by the staff. It would be a fallacy to allow an adjusted child to re-enter into the sphere of an undesirable existence. Such a planning program should incorporate various social outlets in addition to home, school and church. Boy scout and girl scout as well as various recreational and educational organizations in the community should be utilized appropriately.

Having the above philosophy in view, the state of Delaware established the Governor Bacon Health Center primarily as a psychiatric preventive hospital for children. The Center has opened various divisions for service and we are hoping that within the next few months it will be properly organized to give the maladjusted children an opportunity to overcome their problems. The state has been very generous and has appropriated sufficient funds for such a state-wide activity and we are hoping to be able to show in a few years the justification for such an expenditure on the part of the tax-payers. However, since this Center belongs to the people of the state it will be necessary to have the wholehearted cooperation on the part of all who are interested in our civilization. It is well known that the maladjusted children of today are the serious liabilities of the future.

PSYCHIATRY AND GENERAL MEDICINE

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The practicing physician has too often looked upon psychiatry as a subject, unattractive and obscure, difficult and abstruse, and as one with which he need have no immediate concern. If the surgeon and the internist, however, will take the trouble to analyze the problems confronting them in the surgical and medical wards of hospitals, and in their own private offices and consulting rooms, they will find psychological factors of importance in a large proportion of their patients. Although it is cultivated as a separate discipline, psychiatry stands in close and intimate relation with general medicine, and it must always represent an important chapter to the clinician. The internist will certainly fail in his work, unless he is acquainted with the aims and methods of psychiatry, and unless he is familiar with the various reaction types, as exhibited in different individuals, as well as with the diagnosis and treatment of mental disease in general. At the same time, the psychiatrist can become expert in his specialty only after a thorough training in internal medicine.

PSYCHIATRY CANNOT BE SEPARATED FROM MEDICINE

That psychiatry cannot be divorced or separated from general medicine, and that the intricate problems associated with each are more or less dove-tailed, is self-evident. In every disease there is over and above the physical derangement present a certain nervous or mental element which varies in degree and in different individuals, and which constitutes an important part of the clinical entity present. The cerebro-spinal nervous system is thrown into direct connection with all the organs of the body. It dominates them and controls all the essential functions of life. The secretory processess, the work of the heart and the lungs, the propulsion of food through the digestive tract, the nutrition of the body as a whole, and the muscular contractions of the ureters, bladder, and genital ducts are subordinate to accurately regulating neural im-

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pulses. The human psyche is the clearing house, the central station, for all the activities of the body. Hence, every physical symptom must have its reverberation in the mind of the patient. Disease as such, therefore, cannot be fully understood unless the psychic factors involved are taken into consideration.

SOMATIC DISEASES WITH MENTAL SYMPTOMS

While it is unnecessary for the average physician to be an expert in psychiatry, the time is at hand when he must become as much of a psychiatrist as he is a specialist in other directions. He constantly encounters numerous psychiatric syndromes in his daily practice, especially those due to or associated with somatic diseases. He must have a working knowldege of these, in order that he will not make any gross errors in diagnosing the underlying condition and in instituting the proper treatment. A few illustrations will suffice.

Mental symptoms frequently accompany the fever and toxemia of infectious diseases, particularly typhoid fever, pneumonia, influenza, rheumatic fever, malaria, septicemia, cerebro-spinal meningitis, and epidemic encephalitis. The most common clinical picture is that of delirium, which is characterized by clouding of consciousness, confusion, disorientation, restlessness, motor excitement, incoherence, hallucinations, and fear. This syndrome may be either partial or complete. Fluctuations in symptoms are common.

Many psychic manifestations may be associated with Sydenham's chorea. The most constant of these is emotional instability. The choreic child is tearful, peevish, fretful, and irritable. He is apt to be pre-occupied, sensitive, and resentful of correction. Behavior disturbances are common. Delirious episodes may occur.

The puerperal period not infrequently precipitates mental disorders, which often take the form of manic-depressive or schizophrenic psychoses, depending upon the previous personality of the patient.

With the development of methods of determining the bromide content of the blood, it has been found that psychoses due to bromides are more frequent than has been realized. Intoxication symptoms may be expected if the blood bromide level exceeds 150 mg. per 100 cc of blood, although there is wide variation in susceptibility to the drug. Arteriosclerotic and elderly patients have a poor tolerance, and may develop toxic manifestations within two or three weeks even when taking such small amounts as 45 to 60 grams a day. In mild cases, there is fatigue, irritability, broken sleep, slowness of mental grasp, and faulty memory. In more severe intoxication, the clinical picture is one of acute delirium.

The daily frequent occurrence of accidents incident to industry and traffic, and the enactment of industrial compensation laws, has resulted in a marked increase in traumatic mental disorders and in their medico-legal importance. The relationship of head injury to the development of mental illness presents a difficult problem, which is often made more complicated by the addition of psychogenic symptoms to an organic syndrome. In order to arrive at an accurate diagnosis, it is necessary not only to make detailed mental and neurological examinations but also to obtain a precise history of the patient's mental status prior to his injury. The acute manifestations of traumatic mental disorder may take the form of concussion, prolonged coma, traumatic delirium, or memory disorders with disorientation. The chronic sequelae are due primarily to brain injury and consist in personality changes, mental defect or dementia, deterioration, and traumatic epilepsy.

The incidence of psychoses with arteriosclerosis is high. The age of onset is between fifty and sixty-five. Prodromal symptoms in the form of headaches and dizziness are common. A sudden attack of confusion may be the first obvious mental symptom. In most cases, however, the onset is insidious. Among the early manifestations are mental fatigability, a lessening of initiative, inability to concentrate, emotional instability with outbursts of weeping or laughter, and a tendency to depression. Memory is impaired. Some patients are irritable, aggressive, meddlesome, quarrelsome, and obstinate. They may be neglectful of their personal appearance.

Occasionally mental disturbances are associated with serious heart disease, particularly during periods of decompensation. The most frequent symptoms are anxiety and fear, with delirium or temporary periods of confusion,

often worse at night. Quite a few patients are subject to terrifying dreams. Paranoid delusions may be expressed.

Diseases of the thyroid gland are frequently accompanied by mental symptoms. The distressing condition of cretinism, with its characteristic mental weakness, dullness, imbecility, or even idiocy, still occurs sporadically. It must be recognized in early infancy if the intellect is to be saved. The most frequent mental symptoms of myxedema are slowness and difficulty in apprehension, thought, and action. Mild degrees of thyroid insufficiency are not infrequently seen in middle-aged persons who complain of fatigue, pains, headache, and a feeling of depression. While the usual mental sypmtoms associated with a hyperthyroidism are those of tension, overactivity, and emotional instability, yet in extreme cases a fairly typical manic excitement may develop. In other instances there may be depressed, perplexed, anxious, and agitated states. Fairly well systematized delusions of persecution may be present. In acute thyroid intoxication, either in thyroid disease or following thyroidectomy, an actue hallucinatory delirium accompanied by great restlessness, insomia, and incoherence may occur. These cases are often fatal.

Rather rarely great exhaustion may, even in the absence of any infection, produce confused, deliriod states. These are sometimes observed to follow in the wake of long and debilitating illness, unusual and extremely prostrating physical exertion, chronic wasting diseases as cancer, and hemorrhage.

We know very little about the mental symptoms in the avitaminoses. Feelings of inferiority, anxiety states, and profound neurasthenia often occur in vitamin E deficiency. In pellagra, which is due to a deficiency in the vitamin B complex, the commonest mental symptoms are hyperemotionalism, depression, irritability, twilight states, delusions, suicidal compulsions, and dementia.

Pernicious anemia is not often accompanied by frank psychoses, but many patients with this disease show mild mental symptoms, such as failure of interest, crying spells, mental fatigue, patchy memory, irritability, disorientation, and a complaining, fault finding attitude towards those who are caring for them.

Diabetes of long standing is quite apt to produce mental symptoms. They are usually of a mild depressive type, often with ideas of self-accusation and self-depreciation. Anxiety states have also been described. Paranoid ideas sometimes develop.

The mental symptoms indicative of brain tumor are apathy, stupor, euphoria, altered personality, pathological jocosity, disorientation in space, impaired judgment, depression, and memory defects.

Occasionally psychotic reactions are observed following an operation. They are most frequent after the removal of cataracts and after operations on the genitalia. There is usually a post-operative interval of from three to ten days before the onset of the psychosis. The most frequent symptoms are confusion, disorientation, hallucinations, paranoid delusions, apprehension, agitation, and restlessness. Psychological factors are usually present, such as fear of mutilation, the strangeness of the setting, and the importance of the organ operated upon.

The physician must bear in mind that none of the psychotic reactions which accompany somatic pathology are disease entities. The terms "puerperal psychosis" or "influenza psychosis", which we see mentioned occasionally in the literature, are misnomers. More important than an attempt to remember individual reactions, is the anticipation on the part of the physician of the likelihood of mental symptoms and his ability and readiness to cope with them. If the physician has clearly in mind the underlying condition, he will at once appreciate the logic and life-saving effect of removal of the cause and symptomatic treatment. It is true that here a knowledge of the psychiatry of internal medicine often means the difference between life and death.

MAJOR PSYCHOSES FREQUENTLY ENCOUNTERED

In addition to the above somatic diseases with mental symptoms, which the physician often sees in his daily practice, he is also frequently called upon to deal especially with schizophrenia and manic-depressive phychosis. These mental diseases present phenomena of such an abnormal and dissociative nature that a considerable specialistic study is required to

unravel them. Nevertheless, it is ordinarily the general practitioner who is first required to recognize and cope with them.

Schizophrenia is perhaps the most serious menace to modern civilization. The heavy financial burden imposed upon the public for the treatment of mental illness resolves itself very largely into the outlays needed for the life long care of the victims of this disorder. Morever, patients suffering from schizophrenia tend to accumulate because it does not directly cause death. The patients lead a protected existence and they live long. They thus form the chief reason for the periodical necessity of enlarging our mental hospitals and erecting new ones. A practical benefit of the most lasting kind would be conferred on society if a study of schizophrenia could result in its prevention, diminution, and permanent cure of all cases. How to avert schizophrenia is perhaps the most important problem facing the psychiatrist and the community today. The general practitioner also has certain responsibilities in this direction, particularly in regard to the recognition of the disease before it is fully developed.

In the very early stages of the disease, subjective physical complaints which do not lead to the suspicion of a mental disturbance are not infrequent. Such symptoms as headache, vertigo, indigestion, palpitation of the heart, fainting spells, and others, may be in evidence for a considerable period. The patient is often treated for some time before the psychosis is recognized. If no adequate organic disease can be found for the complaints, the physician should always think of their mental origin and the possibility of schizophrenia.

Not only do schizophrenic patients, particularly the hebephrenic and catatonic, have many subjective complaints, but they also present an array of physical findings. The asthenic, athletic, and dysplastic body types seem to predispose to the disease. Loss of weight is an early sign. The temperature is below normal. Bradycardia is common. Blood pressure is low. The hands and feet are cold, clammy, and cyanotic. Occasionally edema is observed. Pupils are widely dilated. When tested by a strong light, they contract momentarily, but quickly dilate again. Deep reflexes are exaggerated. The basal metabolism is lowered. The skin shows acneform and pustular lesions. Hysteriform and epileptiform attacks may occur.

Much can be done towards ameliorating schizophrenia, providing it is diagnosed in its incipiency. There is even fair reason to hope that some day we shall be able to check its progress or prevent it altogether. Almost every case of schizophrenia in its primary stages passes through the hands of the general practitioner who probably failed to even suspect its existence. The physician in private practice, as already pointed out, must always be on the alert for the very first appearance of the early signs of the disease in his patients and refer them to the psychiatrist immediately for the proper disposition and treatment.

Manic-depressive psychosis in either phase is comparatively easy to recognize when it is full blown. It should be remembered, however, that many patients in this group show only the mildest excitements and depressions without anything approaching delusional formation or disorders of the sensorium and therefore attracting no attention from the mental side. They may show fluctuations from a slight depression to the opposite condition of excitement, but this does not necessarily occur. These cases have been classified by some authors under the term cyclothymias. They present a difficult problem in diagnosis and management. Many cyclothymias are accompanied by symptoms referable to the various viscera. Inasmuch as the underlying mental condition is usually not recognized, these visceral disturbances are quite naturally believed to be the cause of the excitement or depression. Improvement or recovery is attributed to whatever form of treatment was resorted to for the relief of the symptoms. The patient and relatives consistently take this attitude and the physician naturally falls into it. No one wishes to acknowledge the possibility of a mental disease, and therefore other explanations are readily accepted. It is important for the physician to bear this group of cases in mind, not only for diagnostic purposes, but also in order that the patient will not be subjected to every diagnostic test and therapeutic procedure in the category of medical specialism, and that he will be dealt with as a mentally sick man. These cases need

psychotherapy, something which they rarely ever receive.

PSYCHOSOMATIC MEDICINE

In times past, the general practitioner or family physician, especially those in smaller communities, knew the antecedents and the background of his patients, as well as their past history and personality make-up. By experience he learned to cope successfully with what he considered functional disease and functional aspects of organic disease. In later years, with the enormous development of laboratory procedures and the increased utilization of complex techniques of special examinations, the physician has tended to neglect the personality, emotional conflicts, and surroundings of his patients in diagnosing and treating them. This dilemma of modern medicine has been met by a reemphasis on the importance of psychogenic factors in disease, and by the introduction of a point of view expressed in the terms psychosomatic disease or psychosomatic medicine.

Psychosomatic medicine is concerned with an appraisal of both the emotional and the physical mechanisms involved in the disease processes of each patient with particular emphasis on the influence that these two factors have on each other and on the individual as a whole. This definition expresses well what the family physician of past decades did daily in his practice without giving it a special name. For modern medicine it is a formulation of this older viewpoint with an attempt at adaptation to the newer techniques of examination, and a hope that investigation will reveal exact information concerning functional disease and the role it plays in patients with and without demonstrable organic lesions.

The symptoms seen in the area of psychosomatic medicine are produced by the prolonged action of emotional influence, conflicts, tension, and anxiety on the vegetative nervous system. This may seriously disrupt the automatic regulation of the body with resulting manifestations referable to various organs.

The cardio-vascular system is one of the greatest contributors to somatic symptoms of emotional origin, largely because it is generally regarded as the most important bodily organ, and because the idea of sudden death is often associated with it. Common symptoms of functional cardiac disease are precordial pain, tachycardia, palpitation, arrhythmia, dyspnoea, fatigue, faintness, insomnia and effort syndrome or neuro-circulatory asthenia. These are for the most part somatic manifestations of anxiety. Psychic factors also play an important role in the development of essential hypertension and in the occurrence of attacks of angina pectoris.

It is not surprising that the gastro-intestinal tract with its rich supply of autonomic nerve fibres is the most frequent focus of psychosomatic symptoms. Among these are anorexia, nausea, nervous indigestion, vomiting, distress from gas, dryness of the mouth, cardiospasm, pylorospasm, and complete rejection of food. Spastic or mucous colitis with diarrhoea and constipation is also due to emotional factors. It has been further shown that prolonged tension and anxiety may lower the general reaction level of the autonomic nervous system, and thus produce disturbances in secretion, motor activity, and blood supply of the stomach. As a result of these physiological changes, induced by the emotions, peptic ulcer often develops.

Psychosomatic symptoms occur with great frequency in the genito-urinary system, because it is of such fundamental biological importance, and because it is concerned with the very elemental reproductive instinct. Gynecologists have become increasingly conscious in recent years of the fact that emotional disturbances may produce disordered function and distress in the pelvic region. In spite of this, far too many women with psychogenic psychological disturbances and sexual dysfunctions are still being treated by operative or other physical procedures. This causes a fixation or a consciousness of their difficulties. Among the psychosomatic symptosm in this specialty are pelvic pain and paresthesia, dysmenorrhoea, and dyspareuia. Both physiological and pychological factors may contribute to menstrual disorder. Such sexual malfunctioning as frigidity and impotence are frequently of psychogenic origin. In this connection, it should be remembered that involved emotional problems or neuroses in women will never be solved by marriage or pregnancy.

In additional to the psychosomatic disorders mentioned above, mention should be made of the fact that emotional influences may be of importance in pruritus, neurodermatitides, asthma, rheumatoid arthritis, in the syndrome of chronic fatigue, in aches and pains in the muscles and joints, or so-called rheumatism, and in many other conditions too numerous to mention.

The psychic origin of certain physical manifestations has been clearly established. In spite of this, however, physicians often ignore the emotional factors involved in illness, and give useless and long-continued treatment to the physical symptoms, thereby permitting the patient to develop an unhealthy fixation regarding them. Many a patient has become bedridden because of the misinterpretation placed by the physician on a functional heart complaint. For instance, when a patient with an anxiety attack is told that he has heart trouble and must remain in bed for six months, the actual etiological factor is over looked and not treated, while a new cause for anxiety is added. By the time it is discovered that the illness was actually functional, the patient has become irrevocably convinced that he is permanently disabled. Or if a patient with spastic colitis is told that he has a diverticulosis, no amount of subsequent persuasion will convince him that he is able to continue a useful life.

This does not mean that the various medical specialists should refrain from resorting to the instrumental and pharmacologic armamentaria which they have found useful in the treatment of physical sypmtoms. There is nothing in psychosomatic medicine which frowns on the employment of specialized techniques and drugs. Often their use is followed by considerable improvement. Concrete therapies, however, in diseases of psychic origin may be distinctly harmful, because they may serve to impress more deeply the functional symptoms present, unless a certain approach on the part of the physician is followed. The patient must be given to understand that the various special therapies and drugs being used may lessen somatic distress and promote general symptomatic improvement, but they cannot of themselves bring about adjustment or recovery. It is particularly dangerous if the patient comes to believe that his symptoms are due to some insignificant defect. If such be the case, the impress of the functional symptom-complex becomes indelible and hope of recovery wanes. Above all else, the physician must not fail to recognize the underlying fundamental psychopathology, and to utilize the understanding thus acquired in the basic treatment of the functional symptoms. No amount of instrumentation, gallbladder drainages, vaccines, endocrine therapy, vitamins, and others, can bring about a favorable result unless the determining underlying emotional conflict is resolved.

In the study of all patients, both organic disabilities and emotional conflicts are to be evaluated in an understanding of the patient's symptoms. In some, the organic, in others, the emotional plays the chief role, or there are various combinations of these two factors. The patient, in whom no organic disease can be discovered, and in whom none is probable, can be just as sick as the patient with underlying structural pathology. The patient with a discoverable organic lesion may be ill out of all proportion to any direct effect to that lesion. A discovered organic lesion may play no causative roles in the patient's symptoms. In many illnesses, the chief cause lies in conflicts and maladjustments developing from the patient's family and marital relationships, his associations and friendships, his economic problems, his occupation, and his reaction to past and present happenings of many sorts. It is evident, therefore, that every patient must be considered as a total individual, and that he should receive not only a complete physical examination, including history and various diagnostic procedures, but a psychiatric evaluation as well.

SUMMARY

1. The intimate relationship between psychiatry and general medicine has been emphasized.
2. The fact that the general physician encounters numerous psychiatric syndromes in his daily practice has been pointed out. A few of these have been briefly described.
3. The importance of the early recognition of schizophrenia and certain types of

manic-depressive psychosis has been discussed.

4. Psychosomatic medicine has been defined and its clinical manifestations reviewed.

ANXIETY IN PSYCHOSIS AND NEUROSIS

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For several years, now, psychiatry's preoccupation with the study of anxiety has been on the increase. References to anxiety in the literature are legion, and one could almost conclude from such references that anxiety has come to be regarded as the key or the open sesame to all of the basic secrets of mental disease. This preoccupation was clearly reflected in the military services during the late World War which gave rise to such a plethora of anxiety diagnoses even among non-combat soldiers. It must be remembered, of course, that many military psychiatrists were totally inexperienced or were briefly converted and that diagnoses were frequently made on the basis of somatic complaints without reference to mental cross section. Such mistakes were made very largely within the lower echelons but the trend was most certainly an extension of the general popularity of anxiety in the psychiatric profession proper.

One does not question the ubiquitousness of anxiety in health or in disease. Anxiety is a reflection of the most immediate, the most insistent and the most pressing psychological needs of the individual. As such it tends to preempt the channels of psychological expression. It comes to the surface with a buoyancy; it distracts the individual from all other preoccupations; it is like a red signal to a locomotive engineer.

The danger implicit in anxiety may spring from any depth from an immediate physical threat to the very life of the individual to a deeply repressed sense of guilt. When the menace is easily perceived and truly objective it is probably better to refer to the reaction as a simple fear response. Anxiety proper is characterized by an uncertainty as to the exact source and extent of the danger. Other mental activity tends to be held in abeyance until this uncertainty is resolved.

Within the field of anxiety proper, the seriousness of the condition under observation can never be judged on the basis of external or presenting appearances. The well-known syndrome consisting of palpitation, choking sensations, dryness of the mouth, anorexia and other somatic symptoms in conjunction with some dire apprehension varies only in intensity or degree. The crux of the situation is the manner in which the anxiety is conjugated. The balance of this paper will be in the nature of an assay of the signifance of these various modes of conjugation.

To begin with it must be asserted that all anxiety appearing in the course of mental disorder is not necessarily pathological anxiety. Anxiety is frequently secondary to some deeper cross sectional psychopathology and as such is merely expressive of the patient's concern about his illness, its origin and prognosis. This is particularly true of depressed patients who remain clear and in full touch with reality. This anxiety becomes a veritable panic in patients who have suddenly found themselves anhedonic in the wake of a psycholeptic attack. The psychiatrist must not make the mistake of labelling the case according to this superficial panic no matter how thickly this panic blankets the underlying pathology. Even when the basic condition is more immediately evident we must not assume that we are dealing with two coordinate affects. The linkage of anxiety and depression is in series, not in parallel. It need hardly be added that such anxiety can scarcely be regarded as pathological. It is the reaction to a real perception of a real menace which is every bit as palpable as physical peril. Its intensity is proportional to the fullness of the perception of emotional change. Its origin is conscious and the cause of its origin is conscious. The cause of the cause of its origin is probably unconscious. This anxiety is a good rather than a bad prognostic sign. The patient who has less anxiety and therefore less perception of his loss either had less to lose in the beginning or will strive less to conquer the anhedonia. The significance of this anxiety lies in prospect, not in retrospect.

It is a significant thing that there is no

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accredited diagnosis of anxiety psychosis. One feels constrained to observe that the anxiety, or the semblance of anxiety, which is often seen in psychosis is usually secondary to some other current factor, be it anhedonia or threatening hallucinations. It is difficult, indeed to conceive of a human consciousness capable of harboring two major and distinct affects at the same time. Invariably one affect is dependent upon another and at the most there can be a blend of coordinate affects. The indications are that anxiety occupies a subsidiary position in the psychotic state. It should be made clear that the anxiety alluded to is an anxiety which has the subjective identity of anxiety and not one which is inferred from the application of some preconceived and schematic framework of psychopathology and which would seem to call for the presence of anxiety in certain situations.

Thus far we have concerned ourselves with a type of anxiety which borders on the normal even though it occurs in psychotic settings. Pathological anxiety, contradictorily enough, is most commonly seen in non-psychotic individuals but yet is more irrational. The term irrational is used in a lay sense for it certainly has no place in psychiatric nomenclature. Suffice it to say that pathological anxiety is over determined anxiety in that the immediate circumstances of the individual do not seem to warrant its presence. The psychiatrist commonly encounters individuals whose every striving is anxiety tinged. Low grade diffuse anxiety seems to be an incorporate and ineradicable corner stone of such personalities, appearing first at a very early age and continuing throughout life. This anxiety although omnipresent, is not obsessive enough nor of sufficient intensity to interfere with the general framework of daily life. On the contrary it may act as a spur. Psychoanalysis offers us an explanation of this type of anxiety.

Usually pathological anxiety is released in a more episodic manner and the circumstances which evoke it are more sharply defined than in the foregoing instance. Consider, for example, the case of a married woman, aged twenty-nine, who sought help because of a symptom which was slowly undermining her social life. When married couples called at her home for an evening of bridge or gossip she would invariably be seized with a sudden feeling of panic and an inexplicable desire to flee from her own house. It was only with extreme difficulty that she dissembled these feelings in the presence of guests and the effort it exacted of her was more than she wished to continue making. The history she gave was as follows: She was born on a farm in Iowa, the eldest of four siblings. Her early life was one of constant drudgery and at times she received abuse from a cruel and unsympathetic father who completely dominated the household. At age eighteen she eloped with a boy of her own age and married him as a means of breaking away from her unhappy situation. The young man, however, proved to be very unstable, irresponsible and immature and two years later she divorced him. She supported herself by doing office work for four years and at length married her employer who was a kindly sympathetic man fifteen years her senior. To her dismay, he was sexually impotent and so she sued for and won a divorce about a year later. Shortly afterward she developed rheumatic heart disease and was confined to bed for a matter of months. She was married a third time at age twenty-eight and the third husband was completely satisfactory in her eyes. But within a few months there was a recurrence of her heart trouble. She was permitted to be ambulatory but little more. All physical exertion and sexual activity were strictly interdicted. At the time of referral, the referring physician did not expect her to live more than six months. She, of course, was unaware of the prognosis. Her recurrent panics were her chief concern.

In this case there can be but little doubt that the panic reactions were basically related to her lifelong strivings in the direction of material and psychological security. She was severely rejected in her native setting but this did not prevent her, herself, from rejecting two husbands in a rather summary manner. Her third husband seemed to satisfy all of her specifications but she was chagrined to find that heart disease prevented her from playing the role of sexual partner and housewife. This was probably the worst insecurity she had ever known and she was able to repress it only imperfectly. The presence of

other married couples in her home acted as a reminder and a probe which pierced her defenses and released pent up anxiety. Her impulse to flee was the equivalent of "I have no right to be here, I am not pulling my own weight. Three times and out". In conventional circles there are not so many women who have been married three times at the age of twenty-nine. The etiological factors in the foregoing case are conspiciously situational. There is no implication of personal weakness or error in the patient's history and the attacks of panic do not threaten the integrity of her personality.

The following case is similar, but reveals a greater element of personal liability with corresponding consequences. A thirty-nine year old alcoholic male complained of a feeling of suffocation accompanied by palpitation and sweating whenever he entered a public conveyance, a theatre, a church, a restaurant or any other place where people congregated in numbers. To a considerable extent he drank to take the edge off the phobia, when, as frequently happened, it was necessary for him to attend business conferences. He was by nature a gregarious, well wishing, easy-going type of individual who frankly admitted a liking for conviviality. The history showed that he had been born into a household which was dominated by a shrewish mother. At age twenty-one he had been obliged to sacrifice his educational ambition because of the market crash of 1929 which left the father's business in a precarious situation. There was no resentment on the patient's part. After being the main support of his family for five years he married at age twenty-six. His mother had been opposed to the marriage and accepted it with ill grace. She criticized the wife openly in a very caustic manner and made frequent depredations upon the household to dominate it and to arouse ill will between husband and wife. The wife's mother was similarly minded. She had bound her daughter closely to her and had stubbornly refused to let marriage loosen the tie. Patient was thrust into the role of mediator and peacemaker, a role which he handled in the only way possible to him, that is, by successive compromises. Each compromise seemed to multiply his woes, particularly after children were born, and it was after he had been married four years that he experienced his first attack of suffocation while attending church with his mother one Sunday. Thereafter attacks occurred with increasing frequency, but characteristically the patient made no complaint, even to his wife. Instead he tried to compensate and to dissemble with the aid of alcohol. He had even been hospitalized for a few weeks in a mental institution for alcoholism in 1939 without revealing his phobia. When at length the meaning of the phobia was objectified to him, the phobia stopped abruptly but the alcoholism continued until he obtained a divorce.

In this case the phobia of crowds symbolized a concrete situation which, though it was not of the patient's making, could have been remedied by him at any time had he the courage to deal with it in a more aggressive and forthright manner. His personality was thus implicated and his own passivity exacted an additional toll, the measure of which was his alcoholism.

Personal implications of more far reaching significance are evident in the following. A thirty-five year-old-woman, wife of an officer in the A.U.S. had from the early days of her marriage been subject to a phobia of crossing the street. The husband sought advice because of her utter dependence upon him and because he had received orders for an overseas assignment. He stated that he had frequently sought to combat this phobia during the first four or five years of the marriage but to no avail. Whenever he had taken his wife's arm to urge her to cross the street she would become panicky and would insist upon returning home. Realizing the futility of his efforts he followed the policy of catering to her. Over a period of fifteen years her only excursions into the open air had been occasional strolls around the immediate block in which she lived. Without going into other details of the case, one may say that this single phobia subtended such a vast segment of normal life that only a few essentials of biological existence were left to her. Such was her personal choice. The phobia undoubtedly was broadly symbolic of a regressive desire for eternal protection.

In the prepsychotic field morbid anxiety is

often a featured symptom. The differentiation between prepsychotic anxiety and anxiety destined to remain within the confines of neurosis is often difficult to make. Usually it will be found that prepsychotic anxieties are multiple rather than single, progressive and obsessive rather than static and less clearly symbolic of concrete situations. For example, a young man suddenly developed an acute fear of falling out of an open window in one of the upper floors of an office building where he was awaiting a dental appointment. He felt relieved upon reaching the street after the appointment but the fear recurred upon subsequent visits to the dentist. Within a few weeks the fear had become so all pervasive that he was unable to sleep at night. He began to avoid his bed because he was powerless to resist the shattering sensations of falling which beset him as he tried to sleep. A psychotic break soon supervened.

Often prepsychotic anxiety may be prolonged months or years before the true psychotic manifestations make their appearance. In some cases a period of normality may intervene between prepsychotic anxiety and the advent of psychosis as in the following. A man of twenty-six, Phi beta kappa, and a high school teacher, was hospitalized for two months because of a series of indifferent phobias. At the end of the two months he appeared to have recovered from the condition which was diagnosed as anxiety hysteria. He returned to teaching but eighteen months later was brought back to the hospital in a profoundly psychotic state. He apparently believed himself to be a dog for he walked on all fours, barked, refused to wear clothes, ate directly from the plate without benefit of hands or utensils, and even lifted his leg to urinate. He revealed no anxiety at this time. It would be highly unrealistic to assume that his attack of anxiety hysteria and his psychosis were two separate illnesses. One must conceive an unconscious thread of continuity in the absence of overt symptoms. In retrospect the phobias could be differentiated from a more benign and neurotic type of phobia by their multiplicity and by the indifferent, loose and elastic manner in which they were conjugated.

Finally, one might observe that in the entire gamut of anxieties, prepsychotic anxiety is the most pathological. At the other end of the scale and in striking contract is that anxiety which arises within the psychotic state and which is least pathological. The former portends a threat to the ego and embraces in minuscule form the elements of such threat. The latter witnesses the threat, is often superior to it and contains the indispensable elements of resistance which tend to support the ego and rescue it from annihilation.

ON THE JOB TRAINING

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In the Delaware Mental Hygiene Clinics it has been found that as a rule nearly every parent and parent group seeking aid is interested in the offspring that the diverse processes of nature have given into their homes. However, few parents are given proper training and adequate education in the natural science and art of rearing the young. This most important job and privilege is taken up by all the members of the unique American culture and related subcultures with the unwaranted expectation of a smooth and spirally progressive course from conception to maturity. It has been pointed out that since the lower animals seem instinctively to do a successful job, human beings should be able to do at least as well. Such thinking avoids the obvious in the fashion of the ostrich-head-in-the-sand technique. It should be plain to all that the mutually reciprocal and interwoven constitutional, experiential, and acculturational facets of human existence are too complex to be solved on a purely, or partially, instinctual level. We need to come down to grappling with facts so as best to learn to live and to assist and instruct our young to live on the basis of what has now come to be desired as the most adequate means of survival. In a phrase, it is necessary to consider the 'survival value' of all that is done physically and mentally and emotionally. Such being the case, the proper time to learn and to teach this is at the time of birth or before. The armamentarium of knowledge now available needs to be placed in the hands of prospective

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parents to the end that they may institute procedures and devise methods for instilling an adequate appreciation of and training in the procedures of proper survival value in their children from the time of conception on. This may seem rash, but since reliable work has been done and is presently being carried out on the fetus, neonate, infant, and child in regard to the proper evaluation of the constitutional, acculturational, and experiential interrelationships, it would seem that the time is now!

It is to be recommended since the men closest to the mass of the population are the general practitioners of medicine that they be considered as the keen, incisive edge of the blade which cuts the Gordian knot binding human error and frailties together. The busy practitioner will rise up in wrath and declaim that he has enough to do! This unfortunately is too true. But were the same effort expended in the preventive mental hygiene of conception, gestation, parturition, and thereafter, he would find his work more satisfying and less productive of irritation. The problems of eneuresis, onychophagy, stammering, juvenile delinquency, and the rest of the witches' brew of mental disorders of all types seen first in the family doctor's office do not spring to life full-blown; they do start somewhere and sooner than you think. The task is to so prepare the young adult for his or her role as a parent—and this need not be done all at once—that he and she and they may move along gracefully and as comfortably as possible, learning the job as it needs to be done each day. Such may be relatively simple providing the general practitioner instructor is aware of two principles and supplements these by utilization of ordinary common sense. It should be pointed up in this connection that no one and no group has a monopoly on knowledge and good-will.

Since we differentiate between animal and man on the basis of the uniquely innate capacity of the latter to start where former generations left off, obviously man to be MAN should exercise this capacity to the fullest extent. If this is not done, we literally ape the lesser species in our nervous reactions, which is the very type of thing we should strive to avoid. This 'where the former generations left off' would not only include all science, but also 'knowledge' as the human being understands it, and the 'wisdow' which through living, each previous group has accumulated; this, in principle, should be made available for our offspring before birth.

When the principle of antefunctional cathexis of development is applied to a being undergoing the conditionaling process from conception on, it is conceivable that in an embryo, fetus, neonate, infant, or child there are present neural devices of specific behavior value which have ordinarily no possibility of immediate expression. Such mechanisms must be organized out of elements of experience, acculturation, and constitution, but are basically new creations as regards their real identity. They represent those features of behavior which can come to an issue only in the more or less far-off future, but which, at the proper time, issue in definite, predetermined action. This indeterminate, predetermination may be considered in dialectic terms as an act of 'will'. It may arise within the ever-burgeoning conditionaling mechanism by the process of differentiation in similar manner to the emergence of the other body reflexes within a spirally expanding total behavior pattern. In this instance it is noted that the developing human organism is in process of creating a definite end-result for a long period before this is needed. So, also in the conditionaling mechanism it is conceivable that similar dynamically developmental acts of growth may be in the process of blossoming into a new type of activity far in the future. Growth may be thought of as the potentially creative function of the human nervous system, not only in respect to the specific pattern of the behavior reaction, but in addition, in respect to its control. The dynamic component of 'thought' is growth; from this comes the meaning that a child is more than the sum of its reflexes, instincts, and immediate reactions of all sorts —it is this, plus the creative potential for the future. An embryo, fetus, neonate, infant, or child then, is more than the sum of its parts; each part has its share of the mutually reciprocal action with and within the whole. So, too, the embryo, fetus, neonate, infant, or child is part of a whole in respect to a specific environment; and, again, since the environ-

ment, be it pregnant female, or be it a family constellation, seems overtly to be of more significance than the sum of its parts, there arises inexorably the question in a functional sense as to the implication of this greater unit as a meaningful experience for its separate parts.

Using these two principles, and tempering them with good common sense, it is found that each prospective parent and parent group is gently brought to the realization that they are embarked upon the job which employs a greater number of persons than any other in the world. They do not then become fearful, insecure, or/and resentful and hostile as a reaction to the realization of the magnitude and inclusiveness of the job. Rather, realizing that this job is one which is 'lived' rather than 'performed', they may learn to proceed happily and efficiently in this great booming buzzing confusion which beset them at birth and which follows them to exitus. The prospective parent and parent groups utilizing these two principles develop in themselves and in their offspring an adequate degree of 'cortical-thalamic' integration demonstrated specifically in a proper degree of survival value.

The family doctor must teach and demonstrate by example that the family is the place wherein is learned and taught in day-by-day existence the habits which lead to maturity and effective living. Here in the family group the adult experiences and by example demonstrates for the child the features of security in life, acceptance by the group, and the capacity to live as life exists in reality with the possibility of creating the greatest possible survival value in all that is and is to be. A case in point is herewith detailed:

A male child, aged seven years, (H. Z.) was brought to one of the down-state mental hygiene clinics for the third time. He was found to be well developed physically, of average intellectual capacity, and adequately integrated emotionally. His parents stated that since the lad's last visit to the clinic in March of 1947, he had been a lovable, active, socially cooperative youngster who apparently thoroughly enjoyed his visits to the family doctor and then continued about his business of growing up in a matter of fact manner. His relationship to his older brother and sister seemed to be mutually tolerant and respectful.

When the parents were first seen by the physician of their choice, both seemed much concerned about the prospects of having this third child since it was unwanted and unplanned for. The mother was desirous of being rid of this incubus and her husband, to keep the peace in the family, assented to her desire. When confronted with the fact that the child would be born in five months, that nothing could be done, and that they would be well advised to make suitable preparations, the woman promptly developed a series of fainting and weeping attacks, which the doctor, in the tradition of the old-time family physician, adequately alleviated. Recognizing the implications of all this for the presently entwined members of the family (husband 40, wife 37; son 17, and daughter of 15), the mother was referred to the Mental Hygiene Clinic for help. After an intensive neuropsychiatric, psychologic, and social service survey, the recommendation was offered to the family doctor that this mother appeared to be basically well integrated—a so-called 'normal' woman who was temporarily unable to handle her problem, but who appeared potentially capable of once again adjusting properly. He was advised to see her a little more frequently than ordinarily, and to permit her to ventilate her distress relatively freely, since it was expected that she would under his direction, reassurance, and acceptance of herself as a 'good' woman, come to be more tolerant of herself, and (perhaps?) would accept the child when it came.

All went well, and the mother prepared herself for confinement. However, after the birth of the child, which was rapid and uncomplicated, the doctor was called to her bedside on the second post-partum day; the mother, apparently in great distress, tremblingly showed him on the baby's neck above the hair line a flaming red patch of skin about the size of a fifty cent piece. This she announced was the result of her previous attempts to get rid of the child shortly after conception and of her lack of desire to have it thereafter even though she understood that such feelings, while not unusual, were uncomfortable. Having been adequately forewarned

and advised by the Mental Hygiene Clinic, he suggested that even though he thought everything was satisfactory and the red mark only of minor cosmetic significance, to reassure her he would have the child examined at the Mental Hygiene Clinic when it was six months of age. (The *first principle*—trying to get his patient to reason and react to facts as they were properly recognized, rather than 'feeling' her way in a superstitious, infrahuman fashion). Soothed, but anxious for an expert opinion, she did accept her own physician's examination of her infant and his demonstration of the child's normalcy in all respects. Having had a previously pleasant and close contact with the personnel of the Clinic, he was aware of the importance of pointing up to her the positive features and the rather wide latitude and margin of safety provided for in the developmental dynamics and potentialities inherent in the child's day by day capacity for growth. Pointing out to her her own, the child's, and the reciprocal relationship of the other family members to each other, the physician (using the *second principle*) tolerantly and permissively accompanied her to the state of understanding that the blemish was only a minor facet of the total bio-social unit which at that time lay placidly in his bassinet.

Six months later the child was examined and found to be well integrated in motor capacity, language spheres, personal-social behavior, and emotional responsiveness. The physician was so notified, but was also informed that this mother seemed to be mildly over protective in her reaction to her offspring. The Clinic advised that it would be well for this mother to be prepared for the expected fluctuations in behavior as the child matured as she was subject to the usual trials and vicissitudes of having an infant in a family with all the rest of the members 'grown up'. This recommendation was carried out, and all seemed to progress smoothly except that when the child reached the age of four and one-half years the mother again consulted her family physician with the complaint that her son seemed to become rebellious, over-active, and prone to occasional episodes of enuresis and aggressiveness toward other children of his age group in the neighborhood. She realized that some of the other women in the social group she moved within had similar problems, but her difficulty lay in accepting her own offspring's behavior. Given an adequate exposition by the doctor, she seemed to relax, stated she recognized her own anxieties and (reluctantly admitted) hostilities, but wondered if the lad should be reexamined at the Clinic. Though he was fully capable of handling this problem, the physician was willing to present her with a reenforcement of the previously established conditionaling therapy, and another examination by the Clinic was requested and accomplished.

It was reported to this physician that all was well except that the child was mildly resentful of his family's attempt to make him conform too quickly to patterns of behavior in advance of his years. It was noted that the referring physician considered that the familial pressure should be reduced and the child allowed to proceed at his own gait for growth. This the Clinic heartily corroborated and further suggested that the child be returned after a period of two years for a final check-up if the situation seemed to warrant it. In the spring of 1949, after a slightly longer period had elapsed, the physician, who had continued as family counsellor, sent the seven year old youngster in again since the family was gratified with his progress and wished the Clinic to see their demonstration of successful intrafamilial adjustment, having come to realize over the passage of time the real troubles they had avoided.

MULTIPLE FAMILIAL OCCURRENCE OF POST-PARTUM SCHIZOPHRENIA

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The role of constitutional and hereditary factors in the development of schizophrenia seems to be fairly well established; and, in spite of dissenting opinions, there seems to be little reason to doubt their partial influence on this form of abnormal mental reaction. The etiological problem of schizophrenia remains highly complex and difficult to assess in many instances. In his monographic review of dementia praecox, Bellak devotes an excellent chapter and commentary on the available knowledge.

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While the multiple occurrence of schizophrenia in families and in sets of siblings can be readily observed among state hospital patients, the familial incidence of post-partum schizophrenia is relatively rare and unusual. For this reason it is felt that the following case study represents a welcome contribution to a much discussed, yet not entirely settled problem.

Patient's mother was admitted to a mental hospital 22 years ago at the age of 36 about three months after having given birth to her youngest daughter, our patient.

The mother's mental symptoms had begun with the onset of pregnancy. There was a tendency to irritability and despondency for a year; however, after her admission to the hospital, her reactions fluctuated from despondency to excitement and overactivity. Numerous delusions of a paranoid content and various forms of hallucinations were observed. She gradually recovered after having spent well over a year in the hospital. Following her release she was well until her oldest daughter became pregnant. The mother started worrying about her daughter, and the daughter about her mother. The latter's emotional tension increased by the time her daughter was delivered of a baby. About two weeks later the mother had again to be sent to the state hospital for a period of four months. During this time she went through a phase in which she showed manneristic and stereotyped behavior, blocking, and indistinct verbalization.

While her condition was diagnosed manic depressive psychosis, manic type, the existence of schizophrenic features was acknowledged.

The mother's second hospitalization coincided with that of her oldest daughter who several days after delivery of her child became at first restless and confused, later mute, rigid, and manneristic. Following admission to the hospital, this daughter developed more serious symptoms such as incoherence, verbigeration, and a tendency to form neologisms. Following recovery she was able to recall a variety of paranoid delusions. She was released with a diagnosis of dementia praecox, catatonic type.

Thus, the patient's mother had two psychotic phases, the first one associated with her own pregnancy, the second one occuring ten years later during the pregnancy of her oldest daughter. Each time her psychosis was characterized by a mixture of affective and schizophrenic features. The mental illness of her daughter was exclusively of the schizophrenic order and showed a dominance of catatonic features.

Our patient was admitted to the Delaware State Hospital one month after being delivered of a son in March, 1949. She is 22, the youngest of four sisters, of ectomorphic physique. She was quiet and retiring as a girl. She was interested in drawing, and sang in the church choir. She got married two years ago. During pregnancy she enjoyed good health. After returning home from the hospital where she gave birth to her child, she appeared slightly euphoric. The first night she did not go to bed at all, insisting that she had too much to do. She became more excited as time went on, talked constantly, and began to repeat herself. She did not take any time to eat. She was inefficient in her work and planned to write a book telling the women how easy it was to have a baby. Gradually she became more confused. She spent six weeks at a private sanitarium where she was preoccupied with religious topics and inclined to wander away. There she began to imagine she had a screen over her eyes that enabled her to know everything that was going on. Restlessness and incoherence supervened. There was occasional euphoria and a tendency to misidentify the nurses. Her sleep was impaired.

Her general physical state was satisfactory, and all routine laboratory tests yielded normal results.

After her admission to the Delaware State Hospital she appeared disoriented for time, emotionally shallow, inclined to grin, occasionally, however, able to reveal facts of her past without gross distortion except for the place of her birth. Her information concerning visual and auditory hallucinations was confirmative, however, vague. Much of her ideation was incoherent. There was a tendency to mistake people of her immediate environment for important personages or relatives or friends. She tended to be antagonistic, destructive, disorderly, and aimless. There was a

tendency to posturing and flexibilitas cerea which disappeared after electro-convulsive therapy. At times she was verbally unresponsive. She would call herself "Charles" and appear undecided about her sex. Her behavior was unrestrained. She would hide in closets and under her bed. One night she thought she saw snakes on the ward. She became agitated, roamed around, singing, and whistling. There were numerous ups and downs. She seemed to respond well to electroshock treatments but never sustained her improved state for any length of time. While rational during ordinary conversation and more nearly normally oriented for time, she has not developed any retroactive understanding of the abnormality of her previous reactions; and she still lacks genuine affect. While she scored psychometrically at the superior level of native intellectual endowment, her reality perceptions and somato-motor integrations were signficantly reduced.

DISCUSSION

The patient, her oldest sister, and their mother reveal a history of schizophrenic reactions related to pregnancy and childbirth. While the mother's reactions were more specifically schizo-affective, those of the patient and her sister were more typically catatonic. While the prognosis of post-partum schizophrenias is, as a rule, more favorable than the ordinary cases of the same type, the prospects of our patient for permanent improvement do not appear too favorable at this time.

The similarity of the mental reactions of the three family members is easily enough explained on constitutional grounds, but the psycho-social affinity cannot be underrated. There is no doubt that the mother's experience during and following her own pregnancy established a precedent that had to be feared with each similar situation in any other member of the family. Yet two sisters of the patient have never been mentally affected in spite of childbirths. Actually it was only the mother and patient's older sister who tended to affect each other mutually during the latter's pregnancy. Yet it seems that in each instance the more serious mental symptoms developed after delivery, leading to hospital admission three months, two weeks, and less than one week later respectively in the case of the mother, oldest sister, and the patient. Their comparative ages were 37, 23, and 22 years; the duration of their hospitalization was four months, 3½, and over one month respectively.

SUMMARY

An instance of multiple familial occurrence of post-partum schizophrenia is described with more detailed data on the member of the group under observation. The role of the genetic-constitutional and the environmental factors in the development of the individual reactions was stressed.

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THE CHARACTER DEFECT OF DYSKINETIC CHILDREN

Its Therapeutic Aspects

A PRELIMINARY REPORT

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Among the children referred to the psychiatrist as behavior problems a great number are described as hyperactive. Close examination of many children so classified reveals that, aside from the overactive psychomotor reaction, they offer distinct dyskinetic features. These dyskinetic features may, however, be obscure and so discrete that they are entirely overlooked unless the examiner takes his time and investigates all the intimate features of the dyskinetic reaction.

The abortive forms of dyskinesia are liable to escape detection for several reasons. There is not always enough time for a thorough physical examination in the ordinary outpatient clinic setting. Also the behavioral aspects of the dyskinetic child are usually so glaring that the interest of the examiner is entirely directed to the character defect overshadowing the dyskinetic features which, considered alone, might appear of little consequence.

In the typical childhood dyskinesias there is usually an abundance of choreo-athetotic symptoms. The involuntary movements appear in the oro-facial sphere and in the distal limb portions. They are unspecific and not clearly classifiable as either choreic or athetotic.

Not infrequently, these movements are also rudimentary, which means that they are not

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always spontaneous or manifest. However, they can be easily brought out in certain standard limb positions or with certain maneuvers.

The role of reflex stimulation in the elicitation of dyskinetic movement responses in certain instances has been investigated by this writer and discussed in a separate publication. (1)

Frequently these children are quite unable to maintain positions of eyelids, lips, tongue, fingers, or toes for any length of time without showing some characteristic positional changes. The lids may show an irregular tremor when kept closed for a while. The patient who is requested to show his lips while his teeth are set close together will soon show some irregular relaxation or tightening of the perioral muscles. The protruded tongue will show irregular, coarse, weaving or undulating movements different from the ordinary tremor. Some of the outspread fingers will show brief deviations from their original position; and, in the Romberg test the toes will tend to move upward, either in unison or in limited groups, at irregular intervals.

It is not the isolated symptom but the combination of a number of symptoms that will make the suggestion of a dyskinetic disorder an acceptable diagnostic entity.

Along with the fully developed or rudimentary forms of choreoathetosis, one may frequently find more or less distinct features of a character disorder. This disturbance may in part be due to the motor defect itself. In addition it has a more strictly psychological and social component which may be an indirect result of the organic damage.

While the native intellectual endowment may not necessarily be deficient, language as a motor function may be markedly impaired. Retardation of speech development may occasionally be severe, resulting in a rudimentary vocabulary and in verbalization difficulties. At the school age level defects in reading, spelling, writing, and calculation may become apparent. These defects, however, are only partly based on the motor disorder. They are more specifically related to the existence of attentional and learning difficulties. On the other hand, perception and visuo-motor control are rarely impaired.

The dyskinetic child is a problem child. What is most problematic is his social conduct and his educability. He is unrestrained and erratic. His efforts are diffuse and lack concentration. He is on the go all the time. His emotions are poorly controlled. He is subject to temper tantrums. In a group setting he is always interfering and disturbing. He is a source of annoyance to people around him. Diurnal and nocturnal enuresis are frequent concomitants. His habit training is difficult.

It is the co-existence of the character disorder and of the motor disorder which seems to separate this group of infants from the majority of other children referred for diagnosis and treatment.

The etiology of the associated disorders is in most instances both complex and obscure. There seems to be little doubt that what Strauss and Lehtinen (2) have described as pertinent to the etiological problem of the brain-injured child, is valid for the dyskinetic group of children. Yet it will often be difficult to determine whether the organic brain lesion involved is acquired before, during, or after birth. In some instances an encephalitic process is involved. Birth trauma is a fairly common etiology.

This writer had occasion to observe dyskinetic reactions in a few sets of siblings which possibly points to a genetic factor.

The dyskinetic child is often a neglected child, and hygienic neglect is only the final link of a chain that includes other forms of neglect, social and educational.

For well over two years this writer, in conjunction with other staff members of the Mental Hygiene Clinic at Farnhurst, has been able to observe the effects of hydantoinates, such as Dilantin Sodium and Mesantoin, on a selected group of dyskinetic children.

While the effects of these drugs on the dyskinetic disorder have been generally uncertain, their influence on the associated character disturbance has been more definite.

The writer was influenced in his decision to administer these drugs to a group of dyskinetic children by a report of Freyhan (3) who noted a favorable influence of Dilantin on the non-epileptic behavior disturbances in a group of adult psychotics.

While the results of our treatment efforts

have been variable, a definite trend toward improvement of some of the rather malignant features of the character disorder associated with dyskinesia has been clearly observed in numerous instances.

The improvement was most noticeable in the sphere of attention and general conduct. Children whose attention was scattered were able to concentrate better. They became more socialized, easier to get along with, and more amenable to education and guidance. Enuresis decreased or subsided entirely. Emotional tension states were reduced in severity and frequency. While in many instances the results were quite encouraging, there were also unexpected failures. This discrepancy in the individual response to the treatment cannot be always satisfactorily explained. In a few instances adequate supervision of treatment was not achieved.

There were also instances with some initial response which, however, was not maintained at long range.

We do not believe that psycho-therapeutic measures alone are sufficient in these children, but it seems likely that they can be more appropriately and more effectively administered when therapy with hydantoinates brings about a change in the receptivity of the patients to corrective and educational influences.

A few case reports may serve to illustrate the effectiveness of the hydantoinates in dyskinetic children.

CASES

1. J. T. R. was referred to the Mental Hygiene Clinic as a behavior problem in May, 1946. He was born in 1938. His mother was not well during pregnancy; however, delivery was normal and easy. He sat up at 9 months, but did not walk until 2 years. He talked at 13 months. Enuresis persisted for a long time, seemed to be gradually overcome, however recurred. He masturbated until the age of 7 years.

At the age of 3 months he had pneumonia, diarrhea, and convulsions. He had membranous croup at 2 years. There were acute attacks of otitis media in 1939 and 1941, and again in 1944.

While considered intelligent by his teacher, he was failing in school; he would not attend school regularly, and when he did, he disturbed the class routine.

His inclination to lie and steal did not yield to whippings. He was not sensitive and would cry only when angry. He was inattentive, overactive, and vulgar in speech.

He came from a broken-up family. His mother was unable to supervise him.

It was noticed that he was slow in walking, that he did not bend his right knee, and dragged his right foot.

Neurological examination revealed a slight dyskinetic affection of the facial muscles, the tongue, and of the left toes, movement of the latter being precipitated by Oppenheim maneuver on the right side. Dyskinetic movements were also observed in the fingers of the opposite hand as a result of active squeezing.

Dilantin medication was initiated with gr. 1½ daily, resulting in a satisfactory modification of the behavioral difficulties as well as in a reduction of the dyskinetic features.

A half-year later patient's conduct and attention persisted in an improved state even after cessation of medication. A dyskinetic residual could still be observed.

2. J. R., a 7-year-old, white boy with a history of oculogyric attacks and outspoken dyskinetic features was placed on 3, later 4 gr. ½ Dilantin Sodium capsules per day. This medication resulted in improvement of the dyskinesia, reduction of the oculogyric attacks, increased attention and amelioration of language difficulties. Therapeutic aid was extended over 2 years with generally satisfying results. Medication is now reduced to only one capsule of Dilantin Sodium (gr. ½) a day.

This patient's early development gives no certain clue as to the etiology of his condition; however, later investigation revealed that he had what was described as "baby's jaundice" of short duration. He had whooping cough at 2½ years, chicken pox and measles at 5. Stammering was first noticed at age 5.

3. D. M., a 7-year-old, white boy was referred to the Mental Hygiene Clinic as a serious behavior problem. He was prone to lie and to steal. His attention in the classroom was poor. Often he would stare into space or play truant. His mother complained of his violent temper outbursts and his tendency to enuresis and masturbation.

Neurological examination of November 3, 1948, revealed bilateral nystagmus in the extreme positions of the eyes; strabismus convergens; lid tremor; coarse, irregular, involuntary tongue movements; mild dyskinetic facial movements; variable toe response to sole stimulation; and flexor response to the toes following Oppenheim maneuver in conjunction with active lower tendon reflexes (hypertonus).

Behavioral improvement was remarkable after medication with Mesantoin O.1 gm. 2-3 tablets daily. In March, 1949, his mother reported improved attention, less frequent enuresis, better social adaptation. Subsequently he stopped talking to himself; however, enuresis and irritability had not entirely subsided.

4. D. B., a 10-year-old, white boy was first seen by the writer in 1944 at the age of 6 years. His delivery was normal. He had measles and whooping cough at age 3. About the same time he had spasms, foamed at the mouth, rolled his eyes and twitched. He regained consciousness after 10 to 15 minutes, but was unable to talk for a while. He would complain of headaches after spells. Besides, he had occasional attacks of a petit mal character.

Neurological examination revealed dyskinetic movements of the facial musculature and of the fingers.

In 1947 endocrinological study revealed hypoganadism and anterior-pituitary deficiency.

In 1949 he revealed poor motor coordination, irritability, crying spells, masturbation, marked dyskinetic features with involuntary choreo-athetotic movements of lips, tongue, and fingers, but no evidence of seizures of any kind.

Mesantoin medication (2-3 tablets daily) result-

ed in cessation of masturbation and general improvement of behavior over a period of several months.

From these and similar observations it is concluded that treatment of dyskinetic children with drugs of the hydantoinate group is a valuable adjunct to psychotherapeutic and educational measures. Their effect is transient and palliative.

This report is designed to further similar investigations in a better controlled clinical setting where day by day observation and supervised medication is practicable.

It is hoped that such opportunity will arise at the Governor Bacon Health Center where the treatment of dyskinetic children should become an objective of considerable scope and interest. The average dyskinetic child shows a distinctive psychopathology. Any means to obviate the adverse effects of this defect on the development of the child should be welcome. The dyskinetic child is likely to respond more favorably during the formative years than in later life periods. If untreated, he is liable to preserve the characterologic deficiency well into adulthood. The combination of psychotherapy and drug therapy is probably more effective than is either of them alone.

There are indications that the dyskinetic child is by and large one of the early representatives of the grown-up psychopath inasmuch as the character defect is nuclear and unchangeable, whereas the dyskinesia tends to subside, or at least reach a latent phase in which no clearcut evidence of its former activity exists.

The association of dyskinesia and anti-social behavior is partly confirmed by psychometric pattern and character analyses which often bear a striking resemblance to that of juvenile delinquents and adult psychopaths. Moreover, the exact history of many psychopaths yields information about childhood behavior reactions typical of those found in dyskinetic children.

SUMMARY

(1) The childhood dyskinesias are usually associated with a psychomotor and characterologic defect.

(2) The latter is in a number of instances liable to yield to combined educational, psychotherapeutic, and pharmacological influences. The treatment of dyskinetic children with hydantoinates is a valuable adjunct, even though its effect may be transient in some cases.

(3) The character disorder of dyskinetic children may offer a clue to the etiogenesis of adult psychopathies.

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CRAVING FOR BENZEDRINE

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The steadily increasing popularity of benzedrine and related adrenergic drugs is a matter of common knowledge. An appraisal of the extent of public consumption is difficult in view of the fact that misuse, especially of the benzedrine inhaler, appears to be widespread. This belief is supported by clinical observations as well as by journalistic reports and data made known by authorities of penal institutions. The Philadelphia Inquirer recently devoted a series of articles to the subject of uncontrolled benzedrine consumption and comments from various non-medical observers indicate that the general effects of the drug are widely known and craved for. This craving is of considerable psychiatric interest and calls for an analysis of the varied effects of the drug and their relations to normal and psychopathological aspects of personality.

Among the more sophisticated people, the use of the drug has become so generally accepted that it is no longer unusual to find the benzedrine habits of prominent persons described in biographical sketches. In journalistic portraits, eating, sleeping and smoking habits have long been subjects of special interest. These characterizations now frequently include the person's use of the drug. One reads, for example, that one famous actress never travels without an ample supply of benzedrine and sedatives which she uses alternatingly so that one neutralizes the effects of the other depending on the needs of the moment. Or that a noted composer cannot face his opus without first enhancing his

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creative energies with the aid of benzedrine. Students, even at the high school level, and persons of every profession seem to depend on the drug's stimulating effect in the manner in which older generations depended on black coffee. But that is not all. Some people and especially inmates of prisons and also vagabonds develop the habit for the purpose of mood changes in the direction of euphoria. They usually utilize the benzedrine inhalers, remove the contents which they take orally, either directly or dissolved in water. In the language of these people benzedrine is "the new dope" and provides a "cheap way to get drunk without getting drunk".

Originally, benzedrine was reported to influence feelings of fatigue and mildly depressive moods, producing feelings of increased energy and cheerfulness. Later investigations disclosed additional psychological effects, consisting of general stimulation of mental activity as indicated by improved performance on psychomotor scores, greater alertness and initiative, increased activity of speech function, increase of motor activity at times accompanied by tremor and restlessness and mood changes in the direction of cheerfulness, confidence and assertion. (Reifenstein and Davidoff). The most promising therapeutic results were observed in cases of mild depression, in fatigue states and narcolepsy. While the effects were known to vary greatly from individual to individual and within the same individual depending on factors of temporary disposition, it has perhaps not been sufficiently stressed that a considerable degree of correlation seems to exist between fundamental modes of affectivity, temperamentally characteristic of the individual, and his responsiveness to the drug. This paper is mainly concerned with the discussion of factors which throw some light on the relations of individual affectivity and the drug-induced alterative effects on the mechanism of mood.

Clinical experience shows some striking differences of the effect of the drug on behavior in cases where the criteria for administration are primarily medical as compared with persons who take the drug because of psychiatric indications. Patients in the first group, mostly individuals treated for obesity, often state that they experience no particular effects except a decrease of appetite. Some complain of a mild tremor and restlessness and occasionally of sleep disturbances if the drug is taken too late in the afternoon. There is, however, no distinct awareness of psychological changes and the subjective symptoms are predominantly physical manifestations. If the dosis is increased, the symptoms are apt to be exaggerated rather than changed qualitatively. Personality studies reveal in such instances emotionally stable individuals whose prevailing modes of affectivity permit well sustained levels of mental activity. Moods do not interfere with the capacity to work. There is no subjective dissatisfaction with performance. In contrast to these persons with adequate affective personality functioning, we have the great variety of personalities who are painfully aware of moodiness, sluggishness or hindering fatigue which may temporarily, periodically or more or less persistently force the person to function below his potential level of achievement. Here, benzedrine seems to exert its maximum psychological effects, producing feelings of cheerfulness, energy and productivity. It seems significant that similar changes are not likely to occur in schizoid individuals whose emotional lameness is a fundamental characteristic of their personality pattern.

Affectivity comprises the various moods, feelings of pleasure and displeasure which the individual experiences. The prevailing mood imparts a specific coloring to the person's manner of experiencing. When we speak of "reactive" moods or of situations which "evoke" certain emotional responses, we must evaluate them against the background of fundamental modes of affectivity which are characteristic of each individual. An appraisal of individual affectivity is highly important because of its dominant influence on all personality functions. Affective fluctuations do not merely influence the person's behavior in one dimension, in the sense of lifting or depressing moods. Changes manifest themselves in every sphere of the personality and are reflected in intellectual attitudes as well as in social and sexual behavior.

Dysfunctions of affectivity are characteristically manifested in the life patterns of certain personalities. Many special terms de-

signate the patterns of prevailing moods, their variability and periodicity. For reasons of simplicity it appears practical to refer to these various dysfunctions as modes of dysaffectivity. This element of dysaffectivity plays an important role in the psychopathology of craving for benzedrine. We are here mainly concerned with such modes of dysaffectivity which manifest themselves as prevailingly gloomy moods. Vague anxieties, feelings of anhedonia, pessimistic uncertainty and psycho-kinetic slowness are among the main characteristics of this pattern. Many normal persons who belong in this sector of temperamental make-up, are apt to crave stimulants which increase their performance potential.

We know very little about the psychophysiology of mood reactions. Bloomberg's suggestion that benzedrine may resemble very closely or indeed be identical with one of the sympathins which are normally elaborated in the organism, brings up the question whether the drug supplies the agent which activates psychomotor functions in a natural manner. One may speculate whether in certain instances craving for the drug constitutes a physiological need rather than a psychopathologic compulsion. The hypothesis may be advanced that certain modes of dysaffectivity are associated with a relative deficiency of adrenergic agents. This would explain why the psychological effects are most pronounced in those individuals who show lowered capacities for sustained drive and mental agility. Every physician is familiar with enthusiastic expressions of praise for the drug, coming from patients who experienced a feeling of briskness and alertness which enabled them to carry on more energetically. One often gains the impression that the more the person is aware of the manner in which affective dysfunctions decrease his abilities, the more he becomes susceptible to the influence of drugs which exert a subjectively favorable influence upon performance.

The ameliorative effects on the mechanism of mood of intoxicating beverages, stimulants, hypnotic and narcotic drugs, have been known at all periods of recorded history. Mood-chemotherapy has been used in most societies with varying degrees of social sanction. Clinical, experimental and psychologic studies have produced a wealth of essential data on the physiology and psychopathology of craving and addiction. It is broadly true to state that recent investigations have emphasized the neurotic aspects of the drink and drug-dependent personality. Emphasis is placed on the fact that bromides, morphine and barbiturates as well as alcohol blunt and disorganize neurotically complicated responses and restore more primitive reactions. (Masserman). In line with this concept, many of the behavior patterns of addicts are looked upon as regressive in nature. The individual is pictured as dissolving his repressions and inhibitions by ingestion of alcohol or drugs, thereby permitting previously repressed drives to find a release in action. Moreover, the addict has been interpreted in terms of self-destructive, quasi suicidal behavior, acting under an inner compulsion to first ruin his social position and finally his physical health.

It is, however, questionable whether craving for drugs and alcohol always implies an unconscious desire for the concurrent toxic effects. One cannot overlook that many choose alcohol, for instance, because of its easy availability rather than in preference to other agents which produce psychological effects without danger to social conduct and controlled behavior. One thinks, in this connection, of alcoholics who now frequently state that in their experience benzedrine compares favorably with alcohol. They comment on the "pleasing feeling of elation" and "vitality" in the absence of hangovers and conduct disturbances. Such individuals, it seems, do not utilize alcohol because of its action in promoting release from inhibition but because of its general effects on feelings of displeasure. They suffer from feelings of anxiety, moodiness and tension which they express in the "what's the use" attitude. That these persons have many inner conflicts is primarily the result of dysaffectivity. We should remember Bleuler's profound statement "what we call psychogenic is mostly thymogenic". How easily can one regard the inner conflicts of a patient as "causative" of his addiction, when in reality they are indicative of his affective situation. The meaning of neurosis in relation to the psychopathology of addiction has perhaps been overexpanded to a point

where the role of the dysfunctions in affectivity is being underestimated. Not every alcoholic, for example, especially if he can be satisfied with the effects of benzedrine, tries to escape from a conflict-ridden state of consciousness. He may merely attempt to alter a state of affectivity to which he cannot adopt himself.

From the viewpoint of psychopathological motivation, a distinction must be made between the person who craves euphoria and the individual who wants cheerfulness associated with increased productivity. In a civilization geared to speed and based on competitive social struggle, there is bound to be considerable demand for stimulation. The temperamentally slow and moody individual may consider himself at a disadvantage as compared with the aggressive-vivacious person. But even among ordinarily active persons we find the demand for stimulants because of feelings of fatigue. Split-shift schedules, night work, overexposure to the wear and tear of modern mass-production machinery or intellectual work to be delivered at a deadline, often force the person to disregard natural principles of expenditure and restoration of energy. It may be argued that benzedrine taken in small doses should be considered on a similar basis as moderate doses of caffeine, usually taken in the form of tea or coffee. But while the drug may be taken for personal and social purposes which can hardly be considered abnormal, there exists the danger of harmful side effects as well as the temptation to employ the drug as "bracer" against anticipated mood-crises. There is furthermore the individual's tendency to increase the dosis in accordance with the severity of subjective disturbances. This often produces severe irritability which complicates the clinical picture instead of leading to an improvement of mood. Generally, after several weeks of continuous use the effects of the drug wear off.

The potential danger of toxic complications assuming the form of an exogenous psychosis can be demonstrated in the following case:

A 40-year-old white man was admitted to the Delaware State Hospital after he had sought protection from the police because of alleged persecution. At the time of admission he stated that he had just returned from Texas where he had spent several years in the penitentiary. On his trip by bus from Texas to Delaware he developed the idea that he was being followed, persecuted and in danger of being killed by white as well as by colored people. He seemed acutely distressed, spoke with a low voice and complained that he was in physical danger because of a group of men who were riding on his bus planning to kill him. His facial expression was one of gloominess and listlessness. There were no significant physical findings with the exception of tremors of the hands. Blood pressure 105/70. Shortly after admission he approached a student nurse and asked her to get him a benzedrine inhaler. He offered her money and informed her that he had been in the habit of taking benzedrine for some time. A social investigation revealed that patient had been a heavy drinker for many years. Two of his brothers are alcoholics. One sister is said to have had a nervous breakdown. The mother was described as a very unstable, nervous woman and the maternal uncle was a patient in the Delaware State Hospital where he was diagnosed as schizophrenia, paranoid type. The patient did not do very well in school, displayed an irritable disposition and was regarded as aggressive and untrustworthy. His work record is poor. He did odd jobs and worked for automobile dealers, but never held a job for any length of time. He had been in the Workhouse on at least nine occasions. Some of the charges were "assault and battery", "disorderly conduct" and "attempted rape". He married in 1933 and there are two children. His wife obtained a divorce when he was arrested on charges of raping a woman in the neighborhood. After he served his sentence he left the state of Delaware and went to Texas. There he got into an argument with a man who entered his hotel room where he spent the night with a prostitute. He started a fight and killed the man. He was sent to jail on the charge of "murder without malice". While in the penitentiary he noticed that many of the inmates were addicted to drugs, especially to benzedrine. He got a hold of inhalers at irregular intervals and developed a strong liking for the effects. When after three years and five months he left the penitentiary he bought three benze-

drine inhalers, the contents of which he consumed during the three days while traveling by bus to Delaware.

During the first few days after admission the patient continuously felt in danger and requested protection for his life. He explained that while traveling on the bus various passengers had looked at him in a peculiar way and talked about him when thinking that he was asleep. He became apprehensive and developed the idea that he would be killed. On the ward, he seemed restless, unable to sleep and too suspicious to socialize with other patients. Repeatedly he tried to get benzedrine. When he became progressively agitated, it was decided to give him convulsive therapy. Four metrazol-induced convulsions on succeeding days changed the clinical picture entirely. There was a marked improvement in affectivity, characterized by congenial and sociophilic behavior. He quickly regained a normal grasp of reality and referred to his recent experiences as "foolishness and imagination" and, moreover, attributed them to "too much benzedrine". Interested in subsequent psychotherapeutic sessions, he talked about himself in a frank, matter-of-fact fashion. He explained that he had felt restless and moody so often in his life that he could not settle down, stick to any one job or be satisfied with family life. After periods of relative calmness, he would become morose, irritable and find fault with everybody. Never was he able to develop goals or values for which he wanted to strive. He satisfied the needs of the moment without planning for a future. Acts of impulsive aggressiveness seem to have occurred during phases of mood disturbances. He used to drink heavily but never to the point where he would lose consciousness. There has been no incident of alcoholic psychosis. Psychological studies revealed him to be of superior intelligence. The psychologist stated: "He lacks the will power for constructive social adjustments. Most of his abilities are used on rationalizing his personality deficiencies and his contempt for authority." The patient presented himself, and thinks of himself, as one who gets along well with others as long as "they don't get on my nerves and leave me alone". He makes friends easily, is sexually strongly endowed and mingles a great deal with women. This patient is still in the hospital but has recovered from his psychotic reaction.

If we evaluate the psychopathological aspects of this case which are related to benzedrine, we can safely state that we have here an exogenous type of psychosis which developed while the patient was under the influence of overdoses of the drug. The onset was acute, began approximately at the time when he had finished the contents of two of the three inhalers. The psychotic manifestations were based on ideas of reference which assumed the form of persecutory delusions. It is interesting that clinical reports have emphasized the frequency of paranoid reaction patterns in similar cases of psychoses due to benzedrine. Two factors seem to contribute to the origin of paranoid ideas. First, a more or less latent paranoid element in the personality make-up which assumes major proportions in the psychosis, i.e. in a state of altered consciousness. Second, it may be assumed that the specific effects of the drug favor such a development. The stimulation of mental activity which normally leads to increased alertness, may in case of overstimulation produce a state of hyperattentionality which promotes ideas of reference. Increased awareness of external stimuli, abnormal irritability and restlessness predispose to misinterpretations of activities in the immediate environment. In this particular case, for example, the patient was confined in a bus, observed the other passengers and become abnormally aware of every movement and fragment of conversation. His ideas of persecution were not in any way generalized but concerned exclusively bus passengers whom he believed to follow him after he arrived at the point of destination. Basically, this patient is not a paranoid individual. During dysaffective phases, however, he has often been irritable to the point of uncontrolled aggressiveness and shown a generally hostile attitude.

We may summarize that an appraisal of the psychopathological aspects of craving for benzedrine reveals primarily a relationship to individual modes of affective dysfunctions. Craving does not necessarily constitute an abnormal urge but may be in the nature of a physiological need. Uncontrolled consump-

tion seems widespread and is, at least potentially, dangerous. The effects of benzedrine in altering the mechanisms of mood should be supervised by the psychiatrist who can evaluate the individual indications as well as properly direct the manner in which the drug is employed.

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CHILD GUIDANCE AT THE GOVERNOR BACON HEALTH CENTER: A CASE OF MALADJUSTMENT

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If the methods that neurotic and psychotic persons use in dealing with their frustrations and threats were unique for each individual, we would never be able to develop a systematic science of behavior pathology. And if their methods were really as strange and alien as they seem to the novice, we could not account for the evolution of neuroses and psychoses from normal conduct, nor explain the gradual return to normal behavior which we so often witness in recovering patients. But the adjustive techniques we find in behavior pathology are not unique for every individual, and any of the abnormal reactions can be derived from some basic adjustive technique that normal children or adults use in every-day life. Indeed, we shall use this well-founded relationship as the bridge over which we may pass, in our analysis of behavior, from normal every-day conduct to even the most distorted and bizarre of behavior pathology. When we speak of basic adjustive techniques, we mean those habitual methods which human beings in our society use in over-coming, avoiding, circumventing, escaping from or ignoring frustration and threat. It should be emphasized that these adjustive techniques are simply ways of manipulating situations and reducing the tensions of need or anxiety, of suspense, thwarting and conflict.

Among the most fertile of all soils for childhood personality maladjustment are chronic marital discord and broken homes. If a child is to get the most out of his social operations in the wider community, he must above all have a secure and dependable home base, one that he can leave without anxiety and that he can return to confidently for supplies, repairs, and reassurances. The protection of his home is necessarily limited in scope. No parent can possibly spread it out over the whole neighborhood, neither can an older sibling be expected to be forever watching over a younger brother or sister. Therefore, every child is bound to suffer rebuffs, belittling, discrimination, mishandling, and downright defeat from time to time at the hands of his associates. If, however, he can be sure of his home, if life there provides emotional security and support when he needs them, a child can learn to absorb neighborhood reverses just as he learns to weather frustrations and correction at the home, and by using the same general techniques that he acquired there.

Such, however, is not the case in regard to the home that our patient, Jean, comes from. It was a very poor thing at the best. Her father is an immoral, lawless individual who manufactured cheap whiskey on his farm, and with his wife and with others of his in-laws drank considerably of his own product. There was endless carousing and fighting going on. The girl was subjected to numerous instances of exposure and possible attempted rape on the part of a colored farm hand who, at the present time is in jail. Nothing that she describes about her home indicates a constructive or stable environment. A long series of inexplicable thefts that for two years mystified all lower Delaware seemed to have been solved with the apprehension of this girl's parents and the recovery in their farm home and cached in their fields of a number of wagon loads of loot of fantastic variety and every possible description. The parents were surprised at home and hustled off to jail while Jean was still in school for the day. She was shocked and horrified when the impact of this discovery broke upon her. She was ashamed to death, anxious to the point of hysteria and so confused and lost in an emotional maelstrom that her contact with reality itself, tenuous at the best, waivered further perilously.

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She was committed to the Delaware State Hospital on November 9, 1948, and it was still a moot question at the time of her parole some weeks later whether she was psychotic at that time or not.

Upon her admission to the Governor Bacon Health Center in March of 1949, her attitude toward her family situation, although recognizably ambivalent when she was allowed to talk without direction being suggested to her, was one of rather frantic over-protection. Her entire conduct was redolent with anxiety. There was a terrible press of speech which was louder than necessary. Her laugh was strained and a little bit too prolonged. She invariably became reduced to tears before any conversation had progressed very far. She was inordinately suspicious, demanding to speak to the physician in great secrecy and privacy; she was always fearful lest somebody be listening; she misinterpreted every sound in the hall, as though there was someone spying upon her; she was abnormally sensitive to these trivial outside influences. She is most conspicuously identified with her family and more especially with her mother. She is dreadfully concerned over alleged fainting spells which her mother is subject to and is very fearful that she will not be able to attend her at home. Her mother is subject to spells of nervousness, just as Jean is, and apparently she has neurotic pains in her throat under tension, which it is obvious Jean is afraid will eventually happen to her. Her anxiety and concern over her mother reduces her to tears and it is obvious that this is a very real feeling which she expresses.

Her outlook on the world is pretty much of a paranoid one. She seems to have one or two friends only, and has a very low opinion, indeed, of almost all the other contacts that she has made. She attributes great maliciousness to almost all the people who knew her family in lower Delaware and she recites at length the schemes they engaged in to bring infamy upon her parents. She is able to explain satisfactorily on this basis the present condition of her father who is in jail with a ten year sentence over him on a charge of thievery that goes back a number of years. The fearful tension of her anxiety she gives away very graphically when she lets fall the remark that the breakup of her family and the incarceration of her parents, was, as she says, the end of everything.

This is a child who has probably been peculiar all her life. At the time she entered school she was excessively active and insisted upon talking most of the time. She seemed unduly excitable and would become very tired during the school day; she would spill her lunch so badly that she had to eat in a room by herself. She was later described as being very determined and hard to persuade; she was considered to be badly spoiled by her maternal and paternal grandparents; she was inclined to be too sensitive; she would pout if she couldn't have her own way. She had difficulty getting along with other children; she played with children her own age very little and preferred to be with older people. A psychological examination at the age of six disclosed that her attention was very poorly sustained; she had a tendency to skip from one subject to another; her conduct was extremely impulsive and fragmentary. Number concepts were utterly undeveloped. Test results were as follows: Stanford Vocabulary 132; Stanford Binet 82; Randall's Island Performance 53. Her school achievement was known to be unsatisfactory in all respects.

It is known that all the attitudes and responses found in behavior pathology are in some way related to and derived from normal biosocial behavior. A great many of them turn out to be little more than ineffectual attempts to meet frustration, deprivation, and conflicts with reactions that occur normally, in infancy, childhood, and adolescence. The behavior is socially immature, or as we often say, regressive. But even the most bizarre distortions of behavior, as in schizophrenia, can be traced to origins in anticipation, disorganization, ambivalence, special sensitivity or symbolic confusions, such as any normal person may experience temporarily or to a minor degree. Hence, if we are to orient ourselves and feel at home in the presence of behavior disorders, it is essential that we begin by running through some of the directly pertinent facts of behavior organization.

Attitudes, whether normal or abnormal, are important chiefly because they determine the range of specific responses that a person gives

to any stimulating situation; they also prepare in advance the ground for his responses to appear. This function we ordinarily call anticipation, and the phase of any act preliminary to a given response sequence we call the anticipant attitude. As might be expected, anticipant attitudes play a very prominent part in behavior pathology. We see them repeatedly in the protracted tensions of anxiety, apprehension, worry and remorse as these appear in the neuroses or psychoses.

As a result of having acquired a system of related attitudes and responses, a person acquires eventually a selective readiness-to-react to certain components of a stimulating situation and not to others. No one questions the basic fact that skilled, experienced persons actually do perceive things clearly, within the range of their professional work, that remain imperceptible to others;—in other words, they become reaction-sensitive. Thus two men with different habits may enter an objectively identical situation and react oppositely. This readiness-to-react is selective in that the organism becomes more and more reactive to fearsome, erotogenic or shame-provoking stimuli in its surroundings. What would ordinarily pass unnoticed thus becomes part of an additive stimulation sequence.

A child becomes reaction-sensitive in some specific direction and his sensitivity then leads him to further sensitization along the same lines. A single new learned activity may lead into a whole sequence of successive sensitizing reactions in this way, and make a child progressively more and more different from other children the older he gets.

Jean has become so reaction-sensitive that she has become incapable of participating effectively in the every-day life around her. An adjustive technique which she has used to allay the tension of her anxiety is projection. In doing this she attributes unjustifiably to others in her community feelings which are actually her own but which she is thus able to disclaim, by implication at least. She had been here a day or two only when she suddenly attributed to several housemothers with whom she could not possibly have had verbal contact, certain oblique references and even direct derogatory remarks about her family. This paranoid projection mechanism has since spread to include other members of the social community here. In the case of this girl who is so reaction-sensitive and who lacks the role-taking skill that would enable her to be more detached about others than herself, there is the danger that unless checked, this disowning projection may lead into delusional and hallucinatory behavior, so that one might expect her thinking and her conduct to become even more disorganized. A selective readiness-to-react not only has spread to new excitants but has seriously restricted the range of her emotional reaction to such an extent that she has been prevented from having the balanced experiences she needs for adequate socialization. She has learned to react to life in terms of aberrant sexuality, family shame and personal inadequacy.

Much of her conduct disturbance follows from emotional attitudes that have no logical relation to her present social situation; but nevertheless, the original emotional attitudes still dominate the scene. The connection between a displaced emotional reaction and its original excitant is here perfectly obvious; in other cases it is more difficult to trace, especially when the original excitant is an errant thought that is promptly repressed. Some of our most important therapeutic techniques have been developed to meet the last-mentioned situation.

This tense, maladroit, adolescent female, whose deficiencies have prevented her from entering into the social life of others is rendered still more susceptible to behavior disorders by the dreadful nastiness, insecurity, and instability of the home life. She lacks the social skills upon which emotional acceptance and support from others depend and from which most adolescents derive their security.

HYPEROSTOSIS FRONTALIS INTERNA SYNDROME: A PSYCHIATRIC EVALUATION

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The triad of hyperostosis frontalis interna was first described by Morgani[1] in 1765. At that time he reported the coincidence of internal frontal hyperostosis, obesity, and virilism. After a very careful study, and many years

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later, in 1928, Stewart [2] added psychosis as a clinical feature to the syndrome. Morel[3] gave the first description in a living person, in 1930. For the past two decades increasing attention has been paid to this syndrome, particularly to the neuro-psychiatric manifestations. Because the eleven cases reported here were hospitalized for psychiatric treatment, this phase of the condition will be stressed. Thus we are concerned here with the Morgagni-Stewart-Morel Syndrome.

In a review of 1500 skull x-rays of the Delaware State Hospital in the year 1948, eleven cases were found which bore the diagnosis of hyperostosis frontalis interna, as described by Sherwood Moore[4]. "Overgrowth of bone lies on the inner table and is covered on its intracranial aspect by a smooth lamella of compact bone. No evidence of an inflammatory process. This deposit of bone is increased in density on x-ray. Morphologically it may be nodular or sessile. In all hyperostoses there is bilateral symmetry both in extent and degree, of the osseous changes." None of the eleven cases described in this paper falls in types ii, iii, or iv, of Moore. That is, all thickenings of the calvaria were of the hyperostosis frontalis interna type; none of the nebula frontalis diffusa; or hyperostosis frontoparietalis types. Although the hospital population is mixed as to sex, race and age, all the positive plates were on white adult females between the ages of 31 and 72.

In spite of the fact that Henschen[5] reported, as far back as 1936, that hyperostosis frontalis interna is a common finding in women in advancing years, a causal relationship is still sought between this and mental disturbances. It is not surprising that this condition is becoming increasingly more popular because of the increase in the number of routine skull x-rays. In the past few decades it has become increasingly more evident that the relationship between the personality disorders and the hyperostosis have very little in common. Following along with Henschen[6], who came to the conclusion that hyperostosis frontalis interna produces no clinical symptoms, we can fall back on the work done by Greig[7] in 1928, who stated that the intracranial osteophytes were harmless and, secondarily, not related to the mental symptoms.

REPORT OF CASES

Each of the cases are presented here in a most abbreviated form to mention case number, age, habitus, chief psychiatric findings, physical findings and psychiatric diagnoses.

Case 1. A. B. Q., female, 67 years, white, married, endomorphic habitus. Graduate nurse. Married her present husband 26 years ago; he is 13 years her junior. This is her second marriage, one child by each. 47 years at birth of second child. Had been taking large doses of narcotics for past 6 years. Was treated successfully. After leaving hospital was arrested, and is now serving a prison sentence for performing criminal abortions. P. E. within normal limits. Diagnosed: drug addiction in a psychopathic personality.

Case 2. L. M. M., female, 43 years, white, dysplastic habitus. Had 5 marriages and 5 divorces. Weighed 115 lbs. at marriage and went to 225 lbs. Hospitalized because of "attempted suicide"; she took 6 capsules of a barbiturate after a row with her son-in-law. P. E. revealed evidence of a thyroid-pituitary deficiency. Diagnosed: simple adult maladjustment.

Case 3. E. K., female, 34 years, white, married, endomorphic habitus. Third admission for a psychotic reaction. Had various somatic delusions, complained of tuberculosis, cancer, etc. Was restless, overactive on occasions, talked irrelevantly, incoherently, and was confused. P. E. within normal limits. Diagnosed: schizophrenic reaction, mixed type.

Case 4. E. B., female, 36 years, white, married, endomorphic habitus. Second admission for a depressive reaction. She became confused, threatened suicide, and on occasion was agitated and resistive. Her illness is very definitely periodic in nature. P. E. within normal limits. Diagnosed: manic-depressive reaction, depressed type.

Case 5. I. M., female, 72 years, white, widowed, endomorphic habitus. 3 years prior to admission, she noticed memory impairment, and progressed to be unable to recognize her family and friends, Was childish and carried on a rambling conversation. Disoriented in the three spheres. Could not identify money. Untidy. P. E. revealed a moderate hypertension, incipient cataracts of both eyes. Diagnosed: senile psychosis, presbyophrenic type. Expired; autopsy not revealing.

Case 6. M. M. F., female, 57 years, white, single, endomorphic habitus. Was disoriented in the three spheres. Was confused and delusional. Did not recognize her relatives. Seclusive, irritable and disagreeable. P. E. revealed a severe hypertension. Diagnosed: pre-senile psychosis; hypertensive encephalopathy. Expired; generalized arteriosclerosis, and coronary occlusion.

Case 7. E. A. W., female, 61 years, white, widowed, endomorphic habitus. Sudden change in personalty. Became confused, agitated, untidy, and failed to recognize her children. Responses were illogical and she would go into moments of senseless screaming. Disorganized, disoriented. P. E. not revealing. Diagnosed: pre-senile psychosis, Alzheimer's disease. Expired.

Case 8. M. E. L., female, 62 years, white, married, dysplastic habitus. Complained of severe headaches, frontal; dizzy spells, insomnia. Accusatory, over-religiosity. Delusional with ideas of reference, and persecution, disoriented and confused. P. E. revealed severe arteriosclerosis, gene-

ralized. Diagnosed: Psychosis with cerebral arteriosclerosis, expired.

Case 9. P. A., female, 49 years, white, widowed, endomorphic habitus. Sudden change in behavior. Became hallucinated and delusional Confused, irritable, uncooperative. Ideas of persecution. Regressed to child-like behavior. P. E. revealed signs of thyroid deficiency; had thyroidectomy 22 years previously. Moderate hypertension. Diagnosed: schizophrenic reaction, paranoid type.

Case 10. H. T., female, 31 years, white, married, endomorphic habitus. Recent weight loss of 40 lbs. Crying spells, various vague somatic complaints. 8 months previously had her 8th child. P. E. within normal limits. Diagnosed: psychoneurosis, reactive depression.

Case 11. K. F., female, 38 years, single, ectomorphic habitus. Depressed, many somatic complaints, decreased psychomotor activity. Acute psychotic reaction that went into remission. P. E. within normal limits. Diagnosed: manic-depressive reaction, depressed type.

DISCUSSION

From the foregoing cases, there were none in which the symptomatology could be positively correlated with the osseous changes. The hospitalization in all cases was for a basic neuropsychiatric condition and the diagnoses fell into a fairly representative group. According to classification, there were four organic psychoses (two senile and two presenile), and seven functional conditions, (two schizophrenic, two affective psychoses, one neurotic, one drug addiction, and one situational maladjustment). In each of the cases presented, the Kraepelinian classification is adequate and is best able here to present more or less concrete pictures of the psychiatric formulation.

The four who were diagnosed organically, expired, while hospitalized, so that the senile state was more absolute than could be regarded as a "condition masqueraded as senile dementia", as stated by Carr[8]. The endocrine survey (according to Dr. C. W. Dunn) revealed, four cases of the anterior-pituitary type of deficiency, (cases 1, 5, 6, 7,) ; one exaggerated hypopituitary condition, case (2) ; two mild hyperthyroidism, (cases 3, 4) ; one, post-surgical hypothyroidism, (case 9) ; none of the patients showed marked hirsuitism ; three had moderate hypertension, (cases 4, 6, 9) ; and two, cases (6, 11) never had sexual relations.

The correlation of the mental symptoms, and the metabolic and endocrine disturbances in the cases presented, appear as separate and unrelated mechanisms in a fundamental constitutional disturbance. From the above descriptive study, that fundamental disturbance is not revealed. Before entering into any hypothesis or explanation of the psychophysical correlations, it may be said that they have been noted time and again, each alone and each as complete as here described. The syndrome described is the product of a complex, many sided and varying cooperation of factors of different nature, endogenous, and exogenous, mental and physical, functional and organic.

SUMMARY

This paper presents the Morgagni-Stewart-Morel syndrome as found in eleven admissions to the Delaware State Hospital, after a review of 1500 skull x-rays. A brief extract of each case is given, and an explanation offered for the coexistance of a psycho-physical disturbance. The author is of the opinion that the psychopathology and the pathological physiology are separate, and distinct in a fundamental constitutional disturbance.

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EVALUATION OF PREFRONTAL LOBOTOMY RESULTS AT DELAWARE STATE HOSPITAL

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Leukotomy, or prefrontal lobotomy, the latter being the more accurate term, since grey matter as well as white matter is pierced in the process, has become a fairly common procedure in the past fourteen years. Freeman and Watts state that Burckhardt is the actual pioneer in psychosurgery, as fifty years ago he performed a destructive operation on the intact brain to relieve mental symptoms. However, in 1935 Moniz performed the first valid lobotomy based on accurate knowledge of the frontal lobes. He operated bilaterally

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because each frontal lobe can be functionally substituted by the other, making unilateral operation ineffective. He believed that the dominant signs of the psychosis were due to the functional grouping of cortical cells becoming fixed instead of free and interchangeable.

At the present day the operative procedure consists of severing the nerve fiber system between the prefrontal area of the brain and the thalamus. Freeman and Watts consider the most important fasciculus to be the anterior thalamic radiation which is a direct connection between the frontal lobe and the medial dorsal nucleus of the thalamus, the thalamus being that organ controlling the emotional response to ideas as well as sensations. Therefore, in this procedure the hallucinations and delusions may still persist, but they are not accompanied by an affective charge as they were prior to the operation.

In 1938 the first lobotomy was performed at the Delaware State Hospital. Since then a total of thirty-two cases have been performed. This paper is written to evaluate those cases over a period of eleven years.

In our selection the greatest percentage, fourteen of the thirty-two cases, were patients suffering from dementia praecox. At the present time it is believed that those cases showing marked emotional blunting and disturbance of thinking with secondary features such as hallucinations and delusions to a minimum degree give rise to poor results. Hebephrenics show these signs and are, therefore, poor candidates. The results with patients suffering from catatonic stupors are also poor. If there is a great deal of intellectual impairment the results are not too good. Paranoid cases showing a fairly well preserved personality, and delusions with an adequate affect have the best chance of improvement. Catatonic excitement cases also respond with good results.

Of the fourteen cases, two were hebephrenic, showing all the classical features of that disease. These cases did not respond to the prefrontal lobotomy procedure. Five of the fourteen patients were cases diagnosed paranoid praecox, showing an adequate affective change and a minor degree of intellectual impairment. One patient is showing slight improvement as he is easier to handle, works with the Occupational Therapy Department of the hospital, but he shows marked emotional apathy and dullness. The second of the five patients died three months after the operation of a cerebral hemorrhage, a complication occurring in a small percentage of cases following the operation. The final three patients did not respond in any way to the lobotomy. They are still hospitalized and show their paranoid symptoms to a marked degree.

Six of the patients were diagnosed catatonics. As stated before, the cases showing catatonic excitement phases respond much better than patients in catatonic stupors. Our cases agreed with these findings, as of three cases showing marked catatonic excitement stages before the operative procedure, one is well and working at home; the second is very much improved and is to leave the hospital in the immediate future; the third case did not respond. Three others showing catatonic stupor phases before the operation did not respond. The final case of dementia praecox operated on was of low intellectual level. He has improved to a degree that he is at home and works on a farm.

A smaller number of cases were selected for lobotomies from the "affective disorders" of the manic depressive psychosis, the reason being that these cases responded much better to electric shock therapy. We selected ten cases suffering from the affective psychosis. These cases did not respond to any form of treatment prior to the operation. Three patients impoved and have not had an attack since the operation. The other seven cases did not respond and are still hospitalized.

A very small number of cases were selected from the involutional psychotic disorders, as these patients also respond to electric shock therapy. However, we selected three cases of marked depression that did not respond to treatment. The results were encouraging, as two have improved and are living outside the hospital; the third did not respond to the lobotomy procedure.

Two cases were selected that were diagnosed depressive psychosis in a psychopathic personality. Both patients have had several episodes of depression following the operation.

Another group of patients who respond well

to this therapy are severe and intractable cases of psychoneurosis. We selected one case suffering from a severe form of anxiety neurosis. The patient responded well and now, five years later, is working as a hospital attendant. A lobotomy was also performed on a patient suffering from mental deficiency with psychoneurosis. The procedure was done in order to relieve tension. There has been no change in patient's general condition.

The final lobotomy was performed on a patient suffering from psychosis due to epilepsy with paranoid trends. The patient died one month after the operation of cerebral edema.

Although the results from this series of cases are not encouraging, several patients responded well to this treatment. If the operative procedure had not been performed, they would have been permanently hospitalized or leading unhappy lives. As Kalinowsky and Searff state: "the operation can never make the patient worse, and in many cases the patient will be relieved from a mental suffering which is often agonizing."

SUMMARY

A brief history of prefrontal lobotomy has been presented. Thirty-two cases of prefrontal lobotomies performed at the Delaware State Hospital were analyzed.

CASE AND DIAGNOSIS	DATE OF LOBOTOMY	LIVING OR DEAD	INSIDE OR OUTSIDE HOSPITAL	DEGREE OF IMPROVEMENT REASON FOR OPERATION	IF DISCHARGED: I. LIVING AT HOME II. CAPABLE—INCAPABLE OF WORKING
Case 1. Female, Paranoid Condition	February, 1942	Alive	Inside Hospital	No change following Lobotomy	
Case 2. Female, Dementia Praecox, Hebephrenic Type	May, 1947	Alive	Inside Hospital	No change following Lobotomy	
Case 3. Female, Psycho-neurosis	April, 1944	Alive	Works as an Attendant in Hospital	Relieve Anxiety Marked Improvement	Works as an Attendant in Hospital
Case 4. Female, Dementia Praecox, Paranoid Type	May, 1943	Alive	Inside Hospital	No response to therapy. Lobotomy performed. No change.	
Case 5. Male, Manic Depressive, Depressed Type	October, 1941	Alive	Inside Hospital	Works on farm but shows marked dullness and apathy	
Case 6. Female, Dementia Praecox, Catatonic Type	May, 1941	Alive	Inside Hospital	No response to therapy. Lobotomy performed. No change —still catatonic.	
Case 7. Female, Schizo-phrenia Catatonic Type	October, 1941	Alive	Inside Hospital	No response to therapy. Lobotomy performed. No change —patient still hallucinated, autistic thinking.	

CASE AND DIAGNOSIS	DATE OF LOBOTOMY	LIVING OR DEAD	INSIDE OR OUTSIDE HOSPITAL	DEGREE OF IMPROVEMENT REASON FOR OPERATION	IF DISCHARGED: I. LIVING AT HOME II. CAPABLE—INCAPABLE OF WORKING
Case 8. Female, Schizophrenia Catatonic Type	May, 1941	Alive	Inside Hospital	No response to Therapy. Lobotomy performed. No change. Extremely seclusive and preoccupied.	
Case 9. Male, Dementia Praecox, Paranoid Type	October 22, 1947	Died March 27, 1948 Cer. Hemorrhage	Inside Hospital	No response to Therapy. Lobotomy performed. Cerebral Hemorrhage.	
Case 10. Male, Manic Depressive, Depressed Type	November 12, 1947	Alive	Outside Hospital	Fairly well adjusted on outside.	I Living at Home. II Not working.
Case 11. Male, Dementia Praecox, Catatonic Type	October 15, 1947	Alive	Outside Hospital	No response to Therapy. Lobotomy performed. Patient spontaneous and alert.	I Living at Home. II Working in basket factory.
Case 12. Male, Dementia Praecox, Simplex, Borderline Intelligence	October 1, 1947	Alive	Outside Hospital	No response to Therapy. Lobotomy performed. Patient alert and cooperative.	I Living at Home. II Works on Farm but still asocial.
Case 13. Male, Dementia Praecox, Paranoid Type	October, 1947	Alive	Inside Hospital	No response to other form of Therapy. For discharge. Still hospitalized.	
Case 14. Female, Manic Depressive, Agitated Depression	April, 1938	Alive	Outside Hospital	No response to other form of Therapy. For discharge.	I Living at Home. II Not capable of working.
Case 15. Female, Involutional Melancholia	May, 1947	Alive	Outside Hospital	For discharge	I Living at Home. II Improved, works.
Case 16. Female, Manic Depressive, Depressed Type	April, 1938	Alive	Outside Hospital	For discharge	I Living at Home.
Case 17. Female, Manic Depressive, Depressed Type	January, 1937	Alive	Inside Hospital	No Response.	

CASE AND DIAGNOSIS	DATE OF LOBOTOMY	LIVING OR DEAD	INSIDE OR OUTSIDE HOSPITAL	DEGREE OF IMPROVEMENT REASON FOR OPERATION	IF DISCHARGED: I. LIVING AT HOME II. CAPABLE—INCAPABLE OF WORKING
Case 18. Female, Dementia Praecox, Catatonic Type	February, 1942	Alive	Inside Hospital	Patient has adjusted well in hospital. Not as pugnacious or combative as before operation. Easier to handle. Ready to live outside hospital.	
Case 19. Female, Depressive Psychosis with Psychopathic Personality	June, 1947	Alive	Outside Hospital	Lobotomy has not changed course of condition. Several episodes after operation performed.	II Not capable of working.
Case 20. Male, Mental Deficiency with Psychosis	July, 1948	Alive	Inside Hospital	No change. To relieve tension.	
Case 21. Male, Dementia Praecox, Catatonic Type	October 15, 1947	Alive	Inside Hospital	To make patient easier to handle. Patient has deteriorated both physically and mentally.	
Case 22. Female, Depressive Psychosis	February, 1939	Died, Oct. 1940. Coronary Thrombosis. Cereb. Art.	Inside Hospital	Depressed before Lobotomy. Became Manic after procedure.	
Case 23. Female, Depressive Psychosis, Involutional Type	April, 1940	Alive	Outside Hospital	Hospitalized for 6 years. No change in condition after Lobotomy performed.	
Case 24. Female, Manic Depressive, Depressed Type	April, 1938	Alive	Inside Hospital	No change.	
Case 25. Female, Involutional Psychosis, Depressed Type	July, 1938	Alive	Outside Hospital	To relieve Agitated Depression. Marked Improvement.	I Living at Home. II Capable of Working.
Case 26. Male, Dementia Praecox, Hebephrenic Type	June, 1941	Alive	Inside Hospital	No response to previous Therapy. Patient has deteriorated.	
Case 27. Female, Psychosis in a Psychopathic Individual	January, 1938	Alive	Outside Hospital	No response to Therapy. Lobotomy performed. No change in condition.	I Living at home.

CASE AND DIAGNOSIS	DATE OF LOBOTOMY	LIVING OR DEAD	INSIDE OR OUTSIDE HOSPITAL	DEGREE OF IMPROVEMENT REASON FOR OPERATION	IF DISCHARGED: I. LIVING AT HOME II. CAPABLE—INCAPABLE OF WORKING
Case 28. Male, Psychosis due to Epilepsy with Paranoid Trends	November 13, 1947	Died one month following. Lob. Cereb. Edema	Inside Hospital	No response to Therapy. Lobotomy performed. Died 1 month after operation performed.	
Case 29. Male, Manic Depressive Psychosis	October 22, 1947	Alive	Inside Hospital	No change following Lobotomy.	
Case 30. Male, Paranoid Praecox	April 22, 1948	Alive	Inside Hospital	Easier to Handle.	
Case 31. Male, Manic Depressive, Agitated Depression	April 27, 1939	Alive	Outside Hospital	Easier to Handle. No change. One attack after operation.	
Case 32. Female, Manic Depressive, Depressed Type	April 19, 1940	Alive	Inside Hospital	For discharge. No change.	

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PSYCHOMETRIC PERSONALITY TRAITS

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Human adjustments have numerous causes. The genetic factors of cognitive, affective, instinctual and conative behavior may be intrinsic or extrinsic. Every act, whether in life or in a controlled testing situation, is the simultaneous result of a complex but unified personality structure. The intrinsic traits determining a response are multiple. They function simultaneously in a more or less integrated fashion. The nature and the selective effect of each trait may not be immediately apparent during clinical investigation. In fact, one defective trait may simulate deficiencies in other traits.

Popular observations of human successes and failures throughout centuries have produced a number of valuable categories which posit the existence of independent traits. Thus we call people intelligent or unintelligent, active or passive, aggressive or submissive, extraverted or introverted, strong-willed or weak-willed, realistic or unrealistic, stable or unstable, educated or uneducated, social or unsocial, sane or insane. Because of the differential subtlety and functional simultaneity of traits, these descriptive terms are often applied to people in a loose and unsophisticated manner. An uneducated person may be called unintelligent because the concepts of education and intelligence are not always successfully separated in ordinary clinical impressions. For similar reasons, a weak-willed person may be called introverted. A passive individual may convey the impression of being feebleminded. The difficulties en-

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countered in distinguishing between identical effects of different traits call for the objectification of superficially observable symptoms. The basic genotypes of similar maladjustments may be totally different. One person fails to keep a job because he is weak-willed, another because he is delusional, a third because he is unintelligent, a fourth because he is passive and indifferent, a fifth because he is unsocial, a sixth because he is aggressive. Which personality quality causes the failure, must be determined separately in each individual case, since the structural organization of traits is hardly ever the same in two cases with the same problems.

An improved method of psychometrics may be helpful in isolating the number and nature of independent personality traits and in clarifying their dynamic interaction within the unified personality structure. To achieve this, the mono-dimensional and naive intelligence theory underlying most standardized tests and their classifications will have to be abandoned and a new theoretical foundation will have to take its place. The new approach will have to recognize the multiplicity of genetic constituents and their relative independence of each other. It will have to demonstrate that a weak-willed individual is likely to fail in his adjustments to school, society, and work even though he is intelligent. Test responses and I.Q.'s may be poor for many reasons. The real causes of low test results will not be discovered until we extend the basis of interpretation of success and failure to all existing personality dynamics.

The idea that psychometric tests are subject to the influences of many traits stems from the observation of test scatter. Scatter may be defined as the variability of successful or unsuccessful responses within a test record. It is measured (1) by the ratio of the poorest to the best ability of the individual, (2) by the qualitative structure of many psychometric abilities of each case, and (3) by the fluctuations of responses within each ability.

Scatter analysis teaches that most people vary significantly in the level of maturation of different abilities. Should we undertake to test 50 abilities in one individual, we would find in him 50 levels of attainment. The level of achievement in any one ability is closely linked to his personality organization. Two persons of identical intelligence may have a widely varying distribution of their accomplishments in different lines of endeavor. One person may obtain his highest score in arithmetic and his lowest score in reading. Another person, though of similar intelligence, may obtain his highest score in reading and his lowest score in arithmetic. These striking features of tests seem to be independent of native capacity. They represent consistent displacements of achievement due to temperamental, instinctual, affective, and volitional assets or liabilities.

Objective and comprehensive scatter analysis leads to the following conclusions: 1. The degree of scatter is by and large greater in abnormal than in normal personalities. 2. The polivalence of test results imposes the necessity of abstracting or inferring traits from the measures of specific abilities. 3. Measured personality traits are fourfold in nature—those which correlate with all tests without exception, those which correlate with a small group of tests but not with any other tests, those which correlate with each specific ability as such, and finally those which are due to experimental errors or accidents. 4. Scatter patterns bear a positive relation to major concepts of psychiatric illness. A battery of 50 tests may reveal the presence of one general factor, 10 to 15 group factors, 50 specific factors—one for each ability, and an unknown number of accidental factors. The clinical significance of each factor decreases as its accidental and specific nature increases. The general factor is, clinically and statistically, the most cogent determinant of human behavior. It controls approximately 20 to 25 per cent of the variance of each ability. The group factors are next in importance. Each ability is a function of several group factors in addition to the general factor. The degree and exact nature of specific factors will not be known until the general and group factors are adequately isolated and accounted for. Specific factors will turn out to be of relatively minor importance in clinical studies. Accidents and errors of measurement will account for a very small part of the total adjustment record.

Local research with twelve test abilities has

yielded five psychologically identifiable factors. One of these is a general factor and four are group factors. It must be emphasized that objective personality analysis by means of tests is in its very inception. The tests used are quite inadequate for the complete charting of personal dimensions. The administration and recording of responses will have to be considerably improved if more factors are to be extracted from tests and applied to the explanation of practical problems confronting mental patients. We shall briefly describe the nature of the five factors so far isolated in our experimental studies.

ALTITUDE OR NATIVE CAPACITY

It is of interest to know that the highest and the lowest abilities of each test record are highly correlated with each other in a randomly selected group of persons of the same age. The highest and lowest abilities are also highly correlated with the average of all tests which is popularly known as the I.Q. Because of this fact it should be quite difficult to decide which of the various levels of attainment is most closely related to general intelligence. The so-called validity coefficient, being an interclass variability measure, is by itself an inadequate index of test validation. It must be complemented by a magnitude coefficient which in clinical practice is far more important than the knowledge that two test scores have high directional cohesion. Arithmetic quotients of 55, 65, and 75 are perfectly correlated with reading quotients of 105, 118, and 135. Which of the two tests is the more accurate measure of intelligence cannot be decided on the basis of traditional correlational methods. Clinical judgment must supersede statistics. The intelligence quotient is, of course, a compromise between the two extremes of the ability range. However, the intelligence quotient is a mixture of many effects and therefore fails to measure any one of them in a discriminating manner.

If we are interested in measuring unitary and homogeneous properties of the mind we cannot depend on the intelligence quotient, not even as a measure of functional efficiency. When abilities are correlated with the various positional measures (1st, 2nd, 3rd, etc.) of a test battery it is found that the extremes of the distribution show smaller coefficients (from .25 to .50) than do the median measures (from .45 to .75). This finding indicates that the extreme scores stand for more homogeneous functions than do the median scores near the intelligence quotient.

A comparison of historical data, clinical examinations, and psychometric results favors the conclusion that an average of the three highest scores yields the closest approximation to an individual's native capacity. Since the highest scores of a record are measures of a relatively pure trait, free from contamination by other traits, they satisfy the criterion of homogeneity of function. The lowest scores of a battery usually represent another homogeneous trait which is intimately related to the most severe personal deficits of the examined patient. The median scores of a battery represent a compound of many elements of the group factor variety.

The average of the highest 3 scores may be called the altitude quotient. The altitude quotient is abstracted from different abilities in different persons, since each individual manifests his true capacity through different adjustment channels. For this elementary reason, those who are searching for the one ability which always gives a valid measure of intelligence in short order, are wasting their time and efforts. A truly responsible diagnosis of intelligence will require many more scales of homogeneous abilities than have ever been used in psychometric examinations up to this point.

Altitude is defined as the level of maximum personality integration. It is an abstraction and not an ability. It determines all abilities to a lesser or greater degree. Its average effect on a random sampling of abilities is mediocre ($r = .40$ to $.50$) at best. Altitude is a general trait and an indivisible vector like the scientific concept of the gravitational pull of the earth. It is a potentiality and not an actuality. A highly intelligent person may act very stupidly, if his potential resources remain dormant in most situations. In fact, altitude may be misapplied and produce the paradoxic phenomenon of highly intelligent failure. Altitude is pervasive and determines the level of action of all body mechanisms including the emotions, instincts, and muscular adaptations.

Altitude is an individual point of reference toward which all persons strive but which very few reach. Those who are most stable and most integrated come closest to the consummation of their potential powers. Those who reach their maximum in most abilities have perfect personalities. A perfect personality is far different from an average or "normal" personality.

An average personality is one which deviates in most group factors to an average extent in comparison with persons of his age. If the downward deviations from altitude fall below average in one or more group factors, the personality may be said to be dysfunctioning in the traits in question.

LANGUAGE POLARITY

One of the most conspicuous traits of the clustering type is associated with tests which involve the facile use of the symbols of language. It is the trait which is so frequently and falsely identified with intelligent behavior. In reality, it is a group dynamic which serves only as a vehicle of expression. It may be highly developed or entirely undeveloped in an individual, without modifying in the least his general capacitive level. If it is seriously deficient, the individual has numerous other media of symbolic expression at his disposal.

As a group factor, polarity should be independent of altitude. The deviation ratios of the polarity cluster from altitude correlate to the extent of .073 with altitude in a group of 200 nurses. This correlation coefficient is not significantly different from a zero coefficient. The tests of the polarity cluster show, on the other hand, positive correlations ranging from .393 to .529. Thus it can be demonstrated empirically that language facility, as a group factor, is uncorrelated with native capacity.

Polarity is the specific capacity for literacy. It determines success at school and in the functions of social intercommunication. It is called polarity because its degree depends on the arrangement and orientation of the nervous system in space rather than on its general power. It is also based on the differentiation of meanings by reference to the directional and temporal assembly of symbols. The letter "b" retains its traditional sound value only if viewed from left to right. If we shift to the opposite view (from right to left) it becomes a "d" without any change of position, as happens quite frequently in children who are learning to read or in adults with an inferior degree of literacy. The difficulties in assimilating verbal symbols are due to confusions of percepts based on the varying positions of identical symbols in space or on the directional orientation of the viewer.

The temporal sequences of spoken language values and the spatial sequences of visually perceived figures are closely related. That is why most infants with late speech development later suffer from reading, spelling, and writing defects. These handicaps occur in children and adults of all levels of intelligence, and create grave adjustment problems at all ages.

ORTHOTUDE

Orthotude may be defined as the capacity for cognitive, emotional, and instinctual relevance. It measures the appropriateness of thought and action. A person of high orthotude shows awareness of reality and is usually free from distortions of thinking and feeling. He reacts adequately to environmental stimulation and displays considerable alertness and resourcefulness in dealing with practical problems. He has a well-developed ego. A person with low orthotude misinterprets reality, engages in autistic excursions into irreality, withdraws from social and physical contacts and generally displays poor judgment in dealing with the daily exigencies of living.

The reality cluster correlates with altitude to the extent of .057 and with polarity .072. Both correlations indicate insignificant deviations from zero. They signify that the reality cluster is independent of capacity and polarity. The five tests of this cluster show positive correlations with orthotude ranging from .315 to .495.

MOTIVATION

The concept of motivation involves the capacity for persistent and purposeful effort. It includes goal striving, perseverance, self-control, steadiness of application, and freedom from distraction. It is a volitional vector, determining social and occupational dependability, level of frustration tolerance, and

determination to forge ahead in the face of obstacles. It insures the mature acceptance of long-range responsibilities and the reliable execution of routine tasks. It is related to self-discipline, social conformity, and trustworthiness.

The four tests of this cluster show positive correlations ranging from .274 to .470. The cluster deviations correlate with altitude to the extent of -.093, with polarity .061, with orthotude -.061, in our group of 200 nurses. Here again the relationship between the factors is insignificantly different from zero. Yet correlations between tests and cluster scores are significantly positive.

SOMATIC EFFICIENCY

The last trait in the series is known as psychomotor efficiency. It is associated with the capacity for general muscular adequacy in adaptive situations. It calls for bodily grace, facile mobilization of kinetic energy, smoothness of skilled movements, and speed of motor performance. It determines the degree of clumsiness, inertia, and blocking. It also involves the competency of a person in the reflective analysis of complex problems. In some cases, it may also determine the ability to assimilate facts of an academic nature.

This trait is less unitary and less homogeneous than are the other four. It is a partially oblique factor because it is positively correlated with reality perceptions. Its standard score tends to vary with the size of the orthotude score. It is diagnostically significant when its discrepancy from the orthotude rating is large.

The correlations of the somatic cluster with the other traits in 200 nurses were as follows, altitude -.022, polarity .059, orthotude .52, motivation .070. The loadings of the four tests of this cluster vary from .36 to .46.

CONCLUSION

The derivation of test clusters and their psychological identification mark the beginning of the validating procedure in relation to mental illness. None of the traits bear a consistent and direct relationship to psychiatric diagnoses as now conceived. The reality and somatic clusters tend to be low in schizophrenia, in some types of psychoneuroses, in paranoid conditions, and manic-depressive psychosis. The reduction is significantly greater in schizophrenia than in psychoneurosis. The motivational cluster is low in some psychoneurotics and in persons with psychopathic tendencies. A clearly descending pattern of factorial scores is usually characteristic of organic disturbances. However, each case is a law unto himself. Severe disorganization may show up in the reduction of most or all group clusters. Thus the majority of juvenile delinquents are inferior or defective in polarity, motivation, and somatic efficiency. They are average in altitude and high in reality perceptions. Organic patients tend to remain high in the reality cluster, but when their contacts are dimmed or confused, may show great variability within that cluster or severe general reduction.

At any rate, the synthetic constellation of all factors is of greater importance for diagnosis than is the isolated score of one factor alone.

THE CLINICAL APPLICATION OF FACTORIAL MEASURES

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INTRODUCTION

The preceding article summaries the general results of psychometric studies designed to demonstrate the existence of independent personality vectors. This paper concerns itself with the arithmetical derivation of factorial scores for individual patients and with the discussion of their possible usefulness in clinical psychology and psychiatry.

The calculations will be made on Jastak's test battery known as the Psychometric Patterns. Table I contains a list of the tests of the Patterns and the standard scores obtained by six subjects on each one of the scales.

TABLE I
Standard Scores of Six Subjects on the Psychometric Patterns

Cases:	1	2	3	4	5	6
Sub-Tests						
Oral Reading	129	54	125	119	49	91
Vocabulary	114	52	88	105	65	105
Information	110	51	105	92	75	84
Analogies	115	46	100	109	64	97
Comprehension	119	54	66	87	102	96
Picture Anomalies	105	45	82	96	70	62
Picture Reasoning	127	69	72	74	98	78
Digit Span	110	43	93	116	75	132
Mental Arithmetic	97	50	85	97	67	95
Symbol Substitution	108	51	43	58	70	69
Memory for Designs	120	49	107	63	101	67
Form Boards	75	64	72	80	94	65

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COMPUTING THE FACTOR SCORES

1. The altitude quotient is obtained by averaging the three highest standard scores of each individual. Averaging imparts stability to the quotient. It is important to know that any test ability may be used in the measurement of altitude which yields the best approximation to intellectual capacity. This procedure is a concrete example of abstracting the same trait from different abilities in different persons. The altitude score is positively correlated with all tests in random population samplings. It is therefore a general factor. The effect of this general factor upon tests must be empirically neutralized before it is possible to show that the group factors are uncorrelated with each other and with altitude.

2. Our second step, therefore, is to divide the group factor quotient by the altitude quotient. In this manner, it can be demonstrated that both altitude and a group factor correlate positively with tests but not with each other. These two criteria, (a) significant positive correlation between factors and abilities and (b) absence of correlation between the same factors, may be considered sufficient evidence for the existence of independent and psychologically pertinent traits.

3. One of the traits of the clustering variety (group factor) is polarity. It can be shown that tests measuring reading facility, information, word knowledge, verbal comprehension and analogous reasoning tend to vary in the same direction. If one or two of these tests are high, the others are likely to be high, and vice versa. If they are aligned against the true potential of the individual as measured by altitude, we can obtain a fairly accurate estimate of the degree of literacy present in contradistinction to how well it could be developed under the most auspicious circumstances.

The polarity score is determined from the five verbal tests of the battery: reading, vocabulary, analogies, information and comprehension. The highest and lowest of the five standard scores are eliminated because the tests of this cluster are also controlled by other group factors and because the inclusion of extreme scores might contaminate the cluster score with unwanted effects. The remaining three standard scores are then averaged to one place beyond the decimal point. To ascertain how polarity compares with altitude, the average which has just been calculated is divided by the altitude quotient. The division is carried to three places beyond the decimal point and multiplied by 100. The result is the deviation ratio from capacity or altitude. This deviation ratio is in turn translated into a standard score that illustrates numerically (a) how well the subject's polarity trait is developed in comparison with his own capacity, and (b) how well it is developed in comparison with those who have identical altitude. The group factors are thus represented by standard scores which have interpersonal and intra-personal significance.

In the course of his studies, Jastak found that the average normal person functions at about 85 percent of his capacity in all group factors.

4. Orthotude is determined in the same manner as polarity, except that a different group of tests is used. The cluster comprises: comprehension, picture anomalies, picture reasoning, memory for design, and form boards.

5. Motivation is obtained by the same procedure on the following cluster of tests: arithmetic, reading, symbol substitution, and digit span.

6. Somatude is the outcome of similar computations involving: symbol substitution, memory for design, picture reasoning, and information or analogies, whichever is closer to symbol substitution.

FACTORIAL MEASURES APPLIED TO SIX CASES

Table II presents the factorial standard scores as calculated by procedures explained above. The case histories for subjects follow:

TABLE II
Factorial Standard Scores for Six Subjects on the Psychometric Patterns, Calculated From Table I

Cases:	1	2	3	4	5	6
Factors						
Altitude	125	62	112	115	100	111
*Polarity	114	93	100	104	61	95
*Orthotude	111	106	59	64	130	51
*Motivation ..	100	88	83	113	62	92
*Somatude	113	89	83	45	92	57 (47)

* Measured in relation to altitude

Case 1 is that of an 18-year-old nurse applicant. The psychologist who tested and interviewed her noted that she "is a pretty girl with a sparkling personality. She is outgoing,

quick to form rapport and shows a good sense of humor. She works carefully and employs concentration and good effort in all her tasks.'' Her pattern of functioning as revealed by the Psychometric Patterns is that of a girl with high average to superior capacity and a well-rounded personality. In comparison with the remainder of the population having a similar mental endowment, she is performing on a par with them in regards reality perception, motivation, and psychomotor efficiency. Linguistically she is better than most of the people in her intelligence bracket. Range ratio is definitely above average. Except for judgment on practical matters (her lowest score in Table I), she is likely to do most everything she undertakes with success. Clinically, she presents the picture of a spontaneous girl with many resources.

Case 2 is that of an 18-year-old boy under consideration for sterilization because of inherent mental deficiency. His home environment was inadequate. His parents were never married and his father assumed no responsibility for him. There is a history of enuresis, masturbation, occasional night terrors. He fought with children in the neighborhood. As a result of his delinquent behavior he spent nine months at the Industrial School and was then committed to the Colony. At the Colony he had numerous interests in the opposite sex, was not overly aggressive, but was, on occasion, noisy and boisterous. Generally, he is easily managed. He does require considerable supervision, but can assist in the laundry, where he is a willing worker.

The psychiatrist found him to be oriented in all spheres and without psychotic ideation. Hostility was not evident. No spontaneity was noted, though he was friendly within his capacity. The diagnosis made was inherent feeblemindedness with the prognosis that he will probably always require close supervision.

The report of the psychologist reads that he is a ''fairly responsive . . . boy who cooperates very well and who shows some interest in his achievements . . . His verbal and manual thinking are very concrete and largely illustrative . . . The verbal functions cluster closely together between 50 and 54, indicating that he uses language for most purposes at the low grade moron level . . . The test of contact with reality yield the highest scores. He is sociable and fairly aggressive in his attitude toward the physical environment . . . However, he has a low level of frustration tolerance and gives up in disgust when the same stereotyped and faulty moves fail to produce the desired results . . . He has to put forth more than average effort during skilled manual tests and achieves much less than is expected from his endowment.''

Here we see the record of a boy of limited mentality. None of his standard scores is above 69 and most of them fall in the fifties. Range ratio is low average, indicating a moderately high degree of scatter. Use of language is fairly good in relation to capacity. A history of interest in others and the psychiatric report of good orientation are reflected in the reality contacts, which are commensurate with his endowment. That he is not always dependable is to be seen in his lowered motivational factor, in his former delinquency, his need for supervision, and his occasional noisiness. There is no indication in the history of this boy whether or not he has been proficient in skilled motor manipulations. In general, this is a boy of circumscribed intelligence, with mild dysfunctioning in the spheres of sustained application and somatic efficiency. These are easily ''lived with'' in his instance, and as long as he has adequate supervision will have only minor consequences.

Case 3 is that of a middle-aged housewife with a long history of constant worrying, mild depressions and agitations. She is amiable, congenial, and liked by many people, but is perhaps too sacrificing, and occasionally rather vexatious about minor things. However, her husband states that their married life has been very happy. Recently she developed somatic complaints concerning a lump in her chest and nausea, for which no physical basis could be found. She lost interest in everything, became agitated and wanted to do away with herself. Hitherto she had never been fearful, but now vague fears disturbed her. Hallucinations were denied, however.

She informed her psychiatrist that she had been submissive all her life and had obeyed her family implicitly. She described herself as a person who has been more or less re-

pressed all her life. She was obsessed with the idea that she was lost without her mother, who also had been mentally disturbed, and that this has always worried her and prompted many crying spells.

On the ward her affect was appropriate, although her behavior was compulsive and ruminative. She manifested extreme anxiety and concern for herself. She was over-cooperative and introduced her remarks with the statement, "I don't want to bother you, but——." She confined her conversation to somatic problems, which varied from day to day.

Despite numerous trial visits at home, she was somewhat reluctant to feel independent of the hospital. Her psychiatrist noted that, "As long as she remains in a protective environment such as the hospital offers her, she is safe, feels secure and offers very little complaint." The psychiatric diagnosis was psychoneurosis, chronic, severe.

During the psychological examination she is disturbed. "She groans, collapses in her chair and breathes heavily. She utters self-destructive and suspicious ideas," which she tries to control. She suspects the nurses of being dressed up as patients to watch her. She is distrustful and argumentative, debating over each phrase. "She tried desperately hard at times, muttering, 'Dear God, if I could just ease up enough to answer this question,' but feels certain that all her endeavors are unsuccessful." She repudiates praise. At one point she says, "I am not interested in anyone." However, a latent ability for social rapport is apparent.

The altitude is high average here and the polarity factor consistent with the potential. Clinically, neurotics often verbalize well, despite temporary blocking. The remaining factors deviate from the norm of established functioning: motivation and somatude lie on low average levels, and orthotude is definitely defective. This considerable drop in reality testing ties in with subject's unrealistic thoughts. It is to be noted, also, that as soon as judgment is introduced into the verbal cluster (verbal comprehension in Table I) her otherwise satisfactory language performance falls to low average. From there on the sub-tests show a general decline, except for digit span, which often remains unaffected in obsessive personalities.

Case 4 is that of a young man of 26 whose voluntary commitment came only after months of doubt, vacillations and persuasion. This incapacity for acting whole-heartedly in social situations was not something of recent origin. As a child he had been "babied and coddled" first by his mother and later by his grandmother. Not long after the latter's death, subject appeared depressed and not like his usual self. At times he simply refused to talk and when he did it was to comment querulously on his many physical ailments. Soon he reached a point where he could not work because he was too sick. Many physicians assured him that, regardless of his slight undernourishment, he was in good shape. He seemed greatly dependent on an older brother, who had also been a patient at this hospital. After spending thirty days in the workhouse for disturbing the peace he tried an old routine of sponging off his friends and relatives, at the same time trying to discount his fears that he was in need of psychiatric help. One last visit to another doctor resulted in the same diagnosis as before, with the recommendation that he come to the hospital for treatment. He spent the next day literally running to and away from the hospital until he was finally persuaded to commit himself.

The psychiatric diagnosis was dementia praecox, type undetermined. The psychiatrist noted at that time that, "the onset of psychosis should be placed several months before admission when he demonstrated peculiar changes in reality judgment. At that time he felt that he no longer needed to work, could live on what little money he had saved, and took an altogether peculiar attitude toward social problems. From there he went into a state of withdrawal, developed some peculiar mannerisms associated with anxiety and somatic delusions. During the first few weeks of hospitalization the somatic delusions and a catatonic-like state of passivity were the outstanding symptoms. There was never any evidence of hallucinations or paranoid thinking."

When seen by the psychologist, subject is the same forlorn, complaining person he was

on the day of admission. His command of language is still very much intact, but he is incapable of analyzing the life around him with accuracy or utilizing his body efficiently. "His understanding of people and their attitudes is neither profound nor well thought out . . . He is best at keeping his mind on something once he has decided it is for him." However, in view of his markedly lowered reality contacts this determination may well be in the service of subjective attitudes and do him more harm than good. He cannot muster his physical energies or direct his movements in order to perform fine motor manipulations.

The pattern this young man exhibits on the psychometric is one often noted in those diagnosed schizophrenic: academic achievements are well retained and motivational strivings are often reinforced. On the other hand, the decided break with the real world is to be seen in the markedly lowered orthotude score. Somatude usually suffers from some decline also. In this case the very defective somatude score is probably related to the "catatonic-like state of passivity" described by the psychiatrist other than an organic component, since the Rorschach did not yield any of the Piotrowski signs.

Case 5 is that of a maladjusted boy who has been known to the Mental Hygiene Clinic for ten years. He was first seen when he was eight years old, because of retardation and poor adjustment in school. "He is reported to have had no special interests, going from one thing to another, spending little time with any game or toy. He talked rapidly and rambled from one thing to another. He was frequently disobedient and would do anything to attract attention. No form of punishment seemed to make the slightest impression on him." Three years later he had become involved in stealing. When he was sixteen he was re-examined at the request of the Office of the Attorney-General. This time he had been involved "in violation of Postal Regulations, alleged larceny of money, leaving home without the consent of parents, and violation of the Board of Health Regulations on several occasions."

Two years later he appeared at the Clinic for another examination. The psychologist who saw him was one who had known him for ten years and subject had no trouble relating to him. The examiner wrote: "His response manner to tests has not changed significantly through the years. He is still childish, unimaginative and unstable in matters of constructive thinking.

His language proficiency is still very inferior, especially in the mastery of formal skills. His reading achievement is that of the second grade level. His is unable to recognize and name all the letters of the alphabet. His analysis of words is so faulty that he prefers to guess rather than assemble the sounds in proper order. His vocabulary and general information are meager and indicate a serious lack of cultural interests and opportunities. He is entirely insensitive to his educational gaps, and during the discussion of his shortcomings, appears to feel that he could make out well if given a chance. His motivational assets are relatively small. He is a willing performer in a controlled environment or in doing exciting or distracting work. At long range, he is neither dependable nor accurate in the performance of his duties.

His contacts with most phases of reality are high. He is observant, alert, relaxed in the presence of people, and highly interested in environmental events. His analysis of what he sees is occasionally poor because of the unreflective and impulsive approach he employs."

The boy described above was diagnosed psychopathic personality.

Case 6 is that of a 57-year-old millwright who began to suffer a slight memory impairment about one year before admission. He lost interest in everything and became rather meek in his relations with people. He developed a shuffling gait. He became rather grandiose and insisted he was going to buy a new car. When his wife asked how he would accomplish this, his only reply was, "You'll be surprised." At work he would insist on taking his machine apart, then someone else would have to put it together again. He continued to do this day after day until he was discharged for paying no attention to his work. Following a severe convulsion he was admitted to the hospital.

"Neurological findings revealed sluggishly

reacting, unequal pupils, overactive tendon reflexes, and slight slurring of speech. Physical examination was thought to be typical of central nervous system syphilis. This diagnosis was corroborated by the laboratory examination which indicated strongly positive blood and spinal Wassermann and increased spinal cell count and a first zone colloidal gold curve."

During the psychological examination subject's mood alternated between over-caution and breeziness. Self-references, anxiety reactions, lapses of insight and perseverations occurred. Yet subject insisted that he was in perfect shape, both physically and mentally.

Recollection of general information was weak, digits forward were almost twice as good as digits backwards. Subject missed easy items on the Analogies Test only to succeed with more difficult ones. The general somatude cluster was defective, and a more discrete grouping was even lower—47.

Conclusions on the basis of the psychometric were that this is the record of a man of good mentality and satisfactory language productions. His reality perceptions are very insecure and a close examination of his somatic efficiency reveals a marked invasion. However, he is trying to maintain himself and applies himself as well as he can, especially in verbal situations. A more usual constellation of factors in an organic case features high orthotude and poor motivation.

The organic involvement indicated by the above signs was substantiated by the Rorschach in which impotence and perplexity made their appearance. The diagnosis in this case was general pasesis.

CONCLUSIONS

While in a large number of examinations utilizing Jastak's "Psychometric Patterns," some affinity between patterns of factorial measures and psychiatric diagnoses have been observed, it is recognized that this mutuality is not very cohesive. Correspondence between psychiatric classification and one trait is often encountered, but no consistent agreement. The factors measure both personality traits and disorganization. An acute disturbance tends to obscure the basic personality make-up.

The main objective of factorial measurement and pattern study is not so much to confirm diagnoses, but to contribute to a fuller understanding and psychological analysis of the personality. More research is needed to isolate the remaining personality dynamics that influence adjustment and to discover their relation to mental health.

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THE APPLICATION OF CLUSTER ANALYSIS TO THE WECHSLER-BELLEVUE SCALE

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INTRODUCTION

A number of scatter studies with the Wechsler-Bellevue scale have attempted to differentiate between normal and abnormal populations by the use of sub-test analysis (4) (5). Jastak (2) (3) has approached the problem through the use of the altitude concept and homogeneous test clusters. The greater discriminating power of test clusters over discrete tests is due to the fact that the use of groups of homogeneous scales acts as a corrective to the relative unreliability of single test scores. Through factor analysis of an experimental scale, Jastak has isolated five factors; one, a general factor of intellectual capacity or altitude, and the remaining four, group factors representing personality characteristics. Articles in this issue by Jastak and Robison have discussed the derivation and meaning of these test clusters —altitude, language polarity, reality perception or orthotude, motivation, and psychomotor efficiency or somatude.

The aim of this study is to show that the cluster method may be applied to the Wechsler-Bellevue Scale in order to discriminate between normal and abnormal groups on the basis of differential personality characteristics. This application has already been made at the Mental Hygiene Clinic of the Delaware State Hospital. The method has been clinically useful over a number of years, though care must be exercised in individual interpretation because of the relative unreliability of specific Wechsler-Bellevue tests.

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PROCEDURE

The method of obtaining the factorial scores is similar to that described by Jastak and Robison. The major difference consists in the substitution of corresponding Wechsler-Bellevue tests for those employed in Jastak's experimental scale. Thus the block design test is substituted for memory-for-designs, object assembly for form boards, and similarities for analogies. The remaining verbal and performance tests are quite similar in content. An unpublished study by Jastak has shown a close correspondence between the correlation matrix of his tests with the matrix of their Wechsler-Bellevue correlates, which were used in this study. The Wide Range Reading Scale (1) supplements the regular Wechsler-Bellevue battery as one of the tests of the verbal and motivational clusters.

The various clusters include the following tests:

1. altitude—the weighted average of the three highest scores in the battery.
2. language polarity—reading, information, vocabulary, comprehension, and similarities.
3. reality perception—comprehension, picture arrangement, picture completion, block design, and object assembly.
4. motivation—reading, digit span, arithmetic, and digit symbols.
5. psychomotor efficiency—information, picture arrangement, block design, and digit symbols.

Two groups assumed to be clinically different in personality make-up were selected for psychometric comparison. The various subtests of each individual were grouped into their respective clusters, group averages obtained, and the usual tests of significance applied. The Wechsler standard quotients were used in the original grouping and comparison of the tests.

The control group consisted of 50 white police applicants tested at the Mental Hygiene Clinic of the Delaware State Hospital. This group was matched for age with 50 male, white State Hospital patients diagnosed as schizophrenic. The average age of each group was 29. The average schooling of the police applicants was 11.2 grades; of the patients, 10.2 grades.

RESULTS

Table 1 lists the means and standard deviation of the different cluster scores for each group.

TABLE 1
Means and S. D.'s of Test Clusters

	Policemen N-50		Schizophrenics N-50		Critical Ratio
	Mean	S. D.	Mean	S. D.	
Altitude	124.8	8.68	114.4	16.74	3.86
Polarity	86.7	6.08	88.4	6.13	1.37
Orthotude	88.7	5.64	80.2	8.22	6.00
Motivation	82.0	7.62	79.3	9.70	1.77
Somatude	88.3	6.00	80.5	9.00	5.10

The reality perception cluster shows the most significant differentiation between the schizophrenics and the police applicants. The critical ratio of 6.00 shows that the difference could not have arisen by chance. The superior psychomotor efficiency of the police applicants is also extremely significant. There is a trend for the motivation of the police applicants to be slightly stronger than the motivation of the schizophrenics, but the difference is not statistically significant. On the other hand, language polarity of the schizophrenics is slightly higher than that of the normal group, though again the difference does not satisfy the statistical requirements for significance. It should be pointed out that the above averages of polarity, orthotude, motivation, and somatude represent deviation ratios from altitude, and thus are independent of native capacity. The difference between the altitudes of the two groups do not affect the scores of the four personality clusters, which are ratios and do not rise or fall with the magnitude of the altitude. Since these ratios are not standard scores, they cannot be directly compared with those presented by Jastak and Robison. The latter have converted their obtained deviation ratios to standard scores (with a mean of a hundred and an S. D. of 16) based on more heterogeneous samplings.

DISCUSSION

Our results with the Wechsler-Bellevue Scale are in agreement with those of Jastak[2], who, employing his experimental scale, found a significant decline in the reality perception of schizophrenics. It is quite significant from the viewpoint of the experimental validation of the psychometric concept of reality perception that the schizophrenics are most clearly differentiated from the normals by this personality trait. The statistical findings agree

with the clinical impression of the schizophrenic as a person with a distorted view of actuality. The lower psychomotor efficiency of the schizophrenics as compared with that of the police applicants is understandable in view of the latter's physical vitality and the former's sluggishness and muscular inflexibility. The motivation of police applicants is slightly higher than that of the schizophrenic group, but the lack of a clear cut differentiation suggests that volitional striving is not as greatly affected by the schizophrenic process as are aberrations of judgment and perception. The verbal polarity of the schizophrenics is somewhat higher than that of the police group. This is in agreement with the findings of various investigators[4, 5] that verbal functioning is generally well-preserved in the schizophrenic group.

The effectiveness of the reality perception and psychomotor efficiency clusters as differential factors is brought out by the following percentages. Eighty-six percent of the schizophrenics have reality scores below the average reality score of the police applicants. Seventy-eight percent of the schizophrenics have psychomotor efficiency scores below the average psychomotor efficiency score of the police applicants. Fifty-four percent of the schizophrenics have motivational scores below the average motivation score of the police applicants. Only twenty-four percent of the schizophrenics have verbal polarity scores below the average polarity score of the police applicants.

SUMMARY AND CONCLUSIONS

In order to investigate the discriminating powers of factorial scores derived from an experimental battery and applied to the Wechsler-Bellevue Scale, the test performances of 50 schizophrenics and 50 police applicants were compared. Highly significant differences were obtained between the scores of reality perception and psychomotor efficiency of the normal and abnormal groups. The language polarity and motivational clusters did not yield significant differences, though mild differential trends were present.

It is concluded that within the limits of our experimental population, factorial scores can be applied to the Wechsler-Bellevue Scale to yield objective measurements of clinically important personality characteristics.

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THE PSYCHIATRIC SOCIAL WORKER IN THE DELAWARE MENTAL HYGIENE CLINIC

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The Delaware Mental Hygiene Clinics serve both the urban and rural sections of the state. They are financed by state and federal funds and are ably directed by Dr. Tarumianz, Superintendent of the Delaware State Hospital. Service is rendered any state resident requesting such service, and his or her needs are equally considered and treated. Patients are referred by the physicians, private and state agencies, schools, ministers and courts. Last, but not least, there is a growing number of persons who request help for themselves. There is no practicing psychiatrist available south of Wilmington, and most of the people served would be unable to afford this service, if it were available. The clinics give neuropsychiatric and psychologic diagnosis, and treatment as needed.

The function of the case worker must always be governed by the function of her agency. It is fundamentally the same in either urban or rural communities except for the practical limitations of greater distances traveled, and for the time consuming and frustrating task of locating the right home after the general area is reached. Often this has to be accomplished with the help of the local postoffice, police, stores, or, as a last resort, the local citizens. Specific directions sent with referrals are most helpful.

In most instances the initial contacts for the Mental Hygiene Clinics are made by the worker, usually in the home, sometimes in the clinics, and occasionally at the place of

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employment, or in the local courts or jails. Although the therapist does the treatment of the patient when he gets to clinic, let us not forget that he or she will never get there in most instances if the worker's initial contact is unsuccessful. The beginning phase of the clinical relationship is most important. Frequently we find the adult, the parent, or the child as the case may be, fearful and confused about his referral to a psychiatrist and his need for help at this time is great. This experience threatens his whole pattern of living. If help can be given, the way is paved for treatment and for maintaining a satisfactory relationship throughout the treatment period. The worker must have not only sufficient training, versatility, personal security and maturity to enter into any kind of a situation from simple maladjustment to murder; but she must also have an adequate understanding and respect for the patient as a person. The patient's feelings, right or wrong, about his problems are most important to him.

Many parents and children and other adults are still frequently referred to the clinics with no real understanding of why, or what will happen to them when they come. The child commonly asks, "will he stick a needle in me?" The adult says, "the nurse, doctor, school or social worker wants me to come; I don't know why, I'm not ill." Sometimes this is ignorance, especially in the illiterate or the mentally deficient. Sometimes it is pretended because of guilt, shame, or fear. Occasionally the families have not even been told of the referral and do not expect the worker. That this is contrary to agency policy does not aid the worker when she is confronted with this situation and annoyance on the part of the patient. Here the worker first plays a role of interpreter. The patient has real fear and places the responsibility for his or his child's trouble on other members of the family, the school, the referring agency or still others. If the worker can help him to move first of all towards a recognition and definition of his problem, a release in admitting frustration leads the way to obtaining a more intimate personal history, or picture, from the patient. If he cannot admit nor accept that he needs help, the worker must be skillful enough to withdraw and still leave the way open for the future if he changes his mind.

The patient by giving of himself in the history takes his first direct step and responsibility for a treatment relationship with the clinics. This history has a two-fold purpose. It helps the psychiatrist and the psychologist to be prepared for the patient and know him better, and to be able to make an earlier diagnosis; but most important of all, the patient has begun to clarify his own need for help. The worker must be permissive and realize that it is not only what material do the clinics want, but what the patient is able to give, and how far he can or should go in this first interview. She must interpret this material as it is presented and separate the important details relating to the problem from the non-important. If the patient has committed murder, his guilt is the question and the jury will decide this; the worker is interested in the personal difficulties that preceded it. If the psychiatric case worker cannot be open-minded her patient will feel it. If the parent has rejected her child, was she herself rejected and is she refusing to recognize her own former problems and so her child? Will she help with the child's problem and can she accept change? The worker must recognize the specific needs of each individual case, without prejudice.

At the end of the first interview the clinic appointment is given the patient. If the worker can say to the patient, "I will be there and introduce you to the Doctor," it is most helpful. Finding someone at the clinic whom you have seen before often makes the sometimes unavoidable waiting period and the fear of the new experience easier. If the worker cannot be there, she can still prepare the patient for the time needed and other arrangements.

Once the adult or child comes to the clinic it is usually true in our Delaware Clinics that he is treated by the psychiatrist; but the social worker is by no means abruptly out of the picture. Through her a relationship is kept up with the family, the referring agency or the physician. If the parent can bring the child to clinic, therapy is often done with him or her by the worker while the psychia-

trist sees the child. In instances where the parent cannot or will not come, the worker's return visits to the home are most important since few if any children's problems can be separated from those of the home situation.

A recent study of mental hygiene cases worked on during the last year and a half in the clinics of Kent and Sussex Counties, Delaware, leads to the conclusion that psychiatric treatment moves much more smoothly and is much more apt to be maintained and carried to a satisfactory end when the parents or the family are seen by the worker. The following two cases of high school boys will illustrate this. Others of both sexes studied showed similar results.

First, we have the case of Bill where no initial relationships were established by the social worker.

Clinic day, a telephone call was received from a school nurse, Miss Y., who asked that we see Bill that day as an emergency case. She had recently referred him, but his family had not yet been seen. The problem in the referral was stated as "lack of interest in school work, frequently absences due to headache, and emotionally disturbed." Miss Y. felt the emotional disturbance had increased and it was decided to see Bill. She accompanied him to clinic and gave the following brief history: "Bill has missed twenty days of school so far this year and was absent again during this week. No interest is shown in work, sports, or any other school activities although he is said to be musical. He is failing because he has not made up any of his back work. He is unpopular and often seen alone. His general health is good."

His mother came to the school for a conference, at which Bill was present. He blamed his many difficulties on his mother and said that she had not taken him to the proper doctors. The mother completed the seventh grade and took a business course after which she worked in an office until her marriage. The father is a high school graduate and attended college for a short period. He is moderately successful in business. The family is Protestant but do not attend church. There is one sibling reportedly spoiled, but doing well in school.

The psychiatrist's report of the contact reads: "The neuropsychiatric examination indicated that Bill was disturbed and had tended to convert his difficulties into somatic complaints. Much of his difficulty appeared to be on the basis of inability to adjust to himself and to those about him in his environment."

It was considered that Bill would profit by psychotherapy and arrangements were made for him to receive this at the clinic.

The clinic record states further that Bill had "poorly controlled hostility and poor social adjustment." The diagnosis was "primary behavior disorder; personality and conduct disturbance."

A return appointment was given to Bill.

No home visit was made or relationship or cooperation established with the family since to all outward appearance Bill had apparently accepted a treatment plan and the psychiatrist felt a visit unnecessary.

Bill again came to the clinic. He had become the manager of the school baseball team and was more active in school affairs. An evening appointment was given for next time, so that Bill would not miss school.

Bill did not come for this next appointment. A telephone call to the home was made and his father said that Bill was out. The father was uninterested and did not know he had been coming to the clinic, but he said he would locate Bill and remind him of his appointment, which he did.

Bill came later and was tense and hostile, but said he desired to come back. A return day appointment was given for vocational testing and guidance. The return appointment was not kept. Later it was learned, through Miss Y., that patient went to a baseball game. She asked for another appointment for him and promised to bring Bill. Bill came to the clinic, was seen and given a return appointment.

Two weeks later vocational tests were given. The psychiatrist made a return appointment with Bill to discuss these. The return appointment was not kept and no further word was received from the patient.

Bill was brought or sent to the clinic four times by the school nurse, and came once after a phone call to his home. He missed the other appointments when left to come of his own

volition. Here we see a boy who probably came for therapy wholly against his will, with no sustaining help from his family or the worker.

Now let us see what happened to Peter with the aid of parents who are related to the agency through the worker and who want Peter to obtain help and keep his appointments.

Peter was referred because of maladjustment at school, vague fears, insomnia, nightmares, day dreaming, chills, indigestion and enuresis.

When the home was visited his mother said she wanted Peter to come to the Mental Hygiene Clinic, but she had been fearful and unable to tell him of the referral because she knew he would not want to come. After she found she could express her own frustrations connected with Peter's increasing problems without censure, she was able to accept help, and to work through her fears with the worker. She felt she could prepare Peter for an appointment. The way for Peter's therapy was paved. The mother was most cooperative and a complete personal and family history was given. Peter is one of four siblings in a comfortable home. The mother has somatic complaints and she has used these to tie her children closely to her. However, at times she resents the children's dependence upon her.

The father was seen too by the worker. He is interested in his family, but his long working hours to make his business a success keep him away from home a great deal.

Peter is now in high school. Most of Peter's school difficulties are because of his oversensitiveness and fearfulness of the people in his environment. When he dislikes a teacher he becomes anxious and does very poorly in his class.

Peter came to clinic and was examined by the psychologist and then seen by the psychiatrist. The findings of the psychological tests helped from the very beginning to evaluate his intellectual potentialities and handicaps. The diagnosis was psychoneurosis, mixed type in a boy without abilities to handle the aggression against various members of his family. Expectations for the future were guardedly favorable and treatment was planned.

A week later treatment was begun by the psychiatrist. Peter manifested hostility towards his mother, and the fears and discomforts of adolescence. He returned to the clinic the next week.

Two weeks later he was again seen by the psychiatrist. The mother was visited and was helped by the social worker to accept the need to let Peter develop more independency from her. She was also encouraged to be interested in a better social adjustment and more participation for him in school parties.

Peter continued to come twice more at intervals of two weeks. He still manifested hostility towards his mother.

Worker visited the home and the mother had seen improvement in Peter. This left her freer to express feelings of annoyance about his dependence upon her. She decided to try to let him take more personal responsibility, especially for getting up on time, eating breakfast, and being ready for the school bus, and his lessons.

Peter did not keep his next appointment. The mother was contacted. She had been ill and forgot Peter's previous appointment and he did not voluntarily remember. A new date was given.

Peter kept his next six appointments. Then he did not come for the next one. The worker contacted his mother a few days later and learned Peter again had forgotten his appointment and remembered it too late. He had been taking much more responsibility at home. At the incident of a recent small fire in the house he had counseled his mother in a manner which indicated he was identifying himself with the psychiatrist. His enuresis had stopped. The worker discussed discontinuing treatment if Peter did not begin to remember his own appointments. His parents were anxious for continued help, and a new appointment was given. He has since come to the clinic and is making progress. Treatment is to be continued with home visits by the worker when needed.

Here we have a second adolescent boy who has not yet developed responsibility and whose illness was serious. He would not have continued to come to the clinic voluntarily through the first contacts; but by continued acceptance, recognition of the specific needs

in his case, and suggestions to his family, a satisfactory relationship was sustained. Peter will eventually be able to take more and more personal responsibility towards a favorable adjustment and personality development.

In conclusion no therapist—either social worker or psychiatrist can expect one hundred per cent results and certainly we cannot hope for them in the first few sessions. These are apt to be painful and it is much easier at times, especially for youngsters, to withdraw and avoid the pain. When there is a strong liaison between the psychiatrist and the social worker, and each respects the work of the other with the family, usually understanding can come and help be accepted.

MEDICAL SOCIETY OF DELAWARE
WILMINGTON, DELAWARE
OCTOBER 10 - 11 - 12, 1949

MONDAY, OCT. 10, 1949

8:30 p.m.—Hotel Du Pont.
Meeting of the House of Delegates.

TUESDAY, OCT. 11, 1949

GENERAL MEETING — HOTEL DU PONT

9:30 a.m.—Invocation—Bishop Arthur R. McKinstry

9:40 a.m.—Address of Welcome — Mayor James F. Hearn

9:50 a.m.—Report of House of Delegates, Secretary Beatty

10:10 a.m.—Dr. B. M. Allen—Bone Tumors

11:30 a.m.—Dr. A. R. Shands—Hip Joint of the Child

12:30 p.m.—Luncheon—Hotel Rodney
By the New Castle County Medical Society

GENERAL MEETING — HOTEL DU PONT

2:00 p.m.—Dr. B. M. Alpers—Epilepsy

2:40 p.m.—Dr. F. E. Nulsen—Tumors of the Brain

3:20 p.m.—Dr. Thomas Fitz-Hugh, Jr.—Hypersplenism

4:00 p.m.—Dr. L. M. Tocantins—General and Local Hemostatics

5:00 p.m.—Adjournment

BANQUET — Hotel du Pont

6:30 p.m.—Reception

7:15 p.m.—Banquet (Subscription)

9:00 p.m.—Guest Speaker (humorous)

WEDNESDAY, OCT. 12, 1949

GENERAL MEETING — HOTEL DU PONT

9:10 a.m.—Dr. D. G. Durham—Ophthalmology in Alaska

9:50 a.m.—Dr. L. B. La Place—Treatment of Hypertension

10:30 a.m.—Dr. E. A. Strecker—Psychiatric Etiology

11:30 a.m.—Dr. M. A. Tarumianz—Presidential Address

12:10 p.m.—Election of President for 1950
Election of Pres. Elect for 1950

12:20 p.m.—Adjournment

12:30 p.m.—Luncheon—Hotel Rodney
By the Medical Society of Delaware

GENERAL MEETING — HOTEL DU PONT

2:00 p.m.—Dr. J. E. Rhoads, et al, Symposium on Surgical Diseases of the Intestine

5:00 p.m.—Adjournment

WOMAN'S AUXILIARY
WILMINGTON
OCTOBER 11 and 12, 1949
Hotel Rodney

Complete programs of the Society and of the Auxiliary will appear in the September JOURNAL.

+ Editorials +

DELAWARE STATE MEDICAL JOURNAL

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VOL. 21 AUGUST, 1949 No. 8

TREAT THE PATIENT AND NOT THE DISEASE

Medical science is not content with the treatment of the sick alone or with the healing as an ultimate end. It is impelled to know more about the nature and causes of the disease with which it deals. Knowing the nature and causes of the disease medical science attempts to organize and establish preventive measures to safeguard the people from ravaging diseases.

It is very unfortunate that in the past centuries medicine did not consider the human being as a whole but accepted the physical component of the human organism as the most essential and the prerogative of future health. This one-sided approach on the part of medical science has done a great deal of damage and has delayed the solution of the problem as a whole. Fortunately this attitude on the part of medicine has changed in the past few decades.

Today every physician is conscious of various psychiatric implications in his patients and regards the mind of the human being very important in the treatment of various physical diseases.

For the first time in history psychiatry has been accepted by all the branches of medicine as an important factor in dealing with any abnormal physical, emotional, or mental condition.

We wish to congratulate the men and women in our profession in the state of Delaware who have accepted this new medical approach and who are attempting to utilize such facilities intelligently for the benefit of the patient. Thus, they have learned to practice a new type of medicine, that is—treat the patient and not the disease.

It is also fitting to state that we are proud of the Delaware medical and dental profession who have unanimously opposed the "federalized medicine" which would under no circumstances permit the physicians to adhere to the above mentioned concept. Under federalized medicine patients will become cases under classification of number so and so. Such service has been tried out for more than one half a century and has failed to accomplish the desired end-result.

We believe that it is entirely within the will of each individual physician to practice medicine in such a manner that the people of our country will have faith and trust in their physician's ability to maintain good health without the interference of any bureau.

TELEGRAMS COUNT

With only 48 hours notice, Delaware was able to send 14 telegrams from outstanding citizens in protest against the President's Reorganization No. 1, which was a back-door attempt to put Oscar Ewing in the Cabinet in charge of a "waste-basket" Department of Welfare, including health, welfare, and social security. The committee voted against it 7 to 4. Final action came in the Senate on August 16th, when it was defeated 60-32.

Typical of the feeling in Delaware is the

following telegram from Federal Judge Morris, himself a Democrat.

August 2, 1949.

Honorable John J. McClellan
Senate Office Building
Washington, D. C.

Individual liberty is the priceless heritage of America's people Stop President's reorganization Plan Number One and any legislation tending to socialize any profession would I am convinced be a dangerous inroad upon individual freedom the cornerstone of America's greatness

Hugh M. Morris

DELAWARE'S STANDING

As of July 28, 1949, our records show that your association had remitted 82% of the twenty-five dollar assessment. Its relative standing in per cent collected among the 53 constituent societies was 3.

GEORGE F. LULL

THANKS

Thanks to the following firms who donated refreshments and cigars to the New Castle County Medical Society picnic in June: Diamond State Brewery Co.; Coca Cola Bottling Co.; Danforth's, Brittingham's, Smith and Strevig, and Cappeau's Drug Stores.

Their continued courtesies are much appreciated.

MISCELLANEOUS

Poliomyelitis Conference

On invitation of the Wilmington Board of Health and the Delaware State Board of Health, Dorothy M. Horstmann, M. D., conducted in Wilmington, on June 28, 1949, a conference on poliomyelitis.

Dr. Horstmann, a member of the Poliomyelitis Study Group of the Preventive Medicine Section of Yale University School of Medicine, had recently attended a conference of authorities in this field which had been held at the University of Michigan, under the auspices of the National Foundation for Infantile Paralysis.

Dr. Horstmann was asked to bring to us the consensus of present day authoritative opinion in the field of poliomyelitis; epidemiology, control, medical and hospital care.

That which follows is a summary of Dr. Horstmann's report as it concerns some aspects of medical and hospital care. It has been prepared for the information of hospital board members, and for the guidance of hospital administrators.

It was stated that it is important to consider control measures in poliomyelitis in the light of what is known of the epidemiology of the disease. Clinical and virus studies have indicated that for every recognized case there are at least 100 individuals infected with and excreting poliomyelitis virus. These are healthy carriers or individuals with such mild symptoms that no diagnosis can be made.

Although the number of *infections* with poliomyelitis virus in a community is therefore high during an epidemic, the incidence of the clinical *disease* is relatively low. And the incidence of *paralytic* poliomyelitis in the most severe epidemics has never been higher than 1 per 1,000 population.

It is, therefore, desirable and important that the public be reassured and that every effort be made to avoid unwise publicity and procedures likely to arouse fear and hysteria.

Isolation of cases and suspected cases is recommended. General quarantine has never proven of value. However, a modified quarantine, restricting the movements of child contacts of the case is advisable, since it has been demonstrated that about 80% of familial child contacts of a known case are already infected and excreting virus by the time the case becomes apparent.

England experienced its first relatively large epidemic of poliomyelitis in 1947. Studies there revealed that when patients had continued with their play or work on the first day of symptoms, the percentage of those who subsequently developed paralysis was much higher than in those patients who had been put to bed immediately on the appearance of any symptoms. It is, therefore, recommended that during the time of an epidemic, patients who are mildly ill be kept at home, in bed, and closely observed and visited by a physician frequently.

Good medical and professional judgment will require that the occasional patient, mildly ill, with inadequate or poor facilities at home, will be much safer in a hospital, but

the mildly ill non-paralytic patient with good home resources may do much better in that home.

Seriously ill non-paralytic patients will require hospital care, all paralytic and bulbar cases should be hospitalized at once.

There is no specific treatment available in the hospital that will prevent the onset or the extension of the paralytic process.

General hospitals are adequate for the care of poliomyelitis patients and should accept their responsibility in this field.

It is recommended that the care of patients ill with poliomyelitis should be on a "team" basis. During the early stages these patients will be seen by the practicing physician or pediatrician. As the case progresses, advantage should be taken of the skills in other fields, the orthopedist, the physical therapist, etc.

A number of drugs have been introduced and used. None have proven to be of value over and above the use of moist heat. Since none of these drugs may be considered as innocuous, the application of moist heat is recommended as the most effective means of treatment.

Intermittently applied hot packs of the layon-type are as effective as the "wrap around" type in the majority of cases. In early failure of the intercostal muscles, due to their being in "spasm" and not paralyzed, continuous hot packs to the chest may make respirator treatment unnecessary.

Hot packs should be discontinued in those patients who are intolerant to this method of treatment.

It is generally believed that it is unnecessary for a general hospital to maintain a special or observation ward for questionable poliomyelitis cases. It is recommended that the general precautions be observed such as would be used in any infectious disease, such as pneumonia. Cubicle isolation technique should be maintained until a diagnosis has been established. The use of medical masks is a matter of personal preference. The wearing of gowns, and thorough cleansing of the hands with soap and water, are considered essential and routine.

It is not recommended that stools be chemically treated to attempt to destroy the virus. It is recommended that all excreta be disposed of quickly and that the bed pans be sterilized.

If a patient is being treated at home and a lumbar puncture appears to be indicated, it is helpful if the general hospitals make available an out-patient diagnostic service for these cases. There is nothing to suggest that lumbar punctures affect adversely the subsequent course or progress of poliomyelitis patients.

After the acute stage of poliomyelitis has passed, visiting restrictions to the patient need not be great. From the standpoint of visitors to poliomyelitis patients in the hospitals, the danger of communicability is minor. From the standpoint of a hospital with a large number of poliomyelitis patients, visiting the patients presents a problem which must be controlled and solved as circumstances require.

There is no reason why poliomyelitis patients should not be transported in community ambulances. It is not recommended that any means of disinfection or fumigation be used. Such measures are useless and arouse unnecessary fear. It is assumed that clean sheets and pillow cases will be used for every case of any disease transported in an ambulance.

Ring Deaths Shocking

The shocking incidence of ring deaths and serious injuries among professional boxers make the "sport" the greatest killer in American athletics, says Thomas Gorman, Chicago, assistant managing editor of Hygeia, health magazine of the American Medical Association.

Boxing has produced more deaths per number of participants than any other sport, and 50 per cent of active fighters are punch drunk to some degree, he points out in the June issue of the magazine.

"The 13 ring deaths of 1948 form a continuation of a series over the years since professional boxing has become widely legalized in the United States," Mr. Gorman says. "According to recent figures, five boxers were killed as a result of bouts up to April 20 this year, 13 in 1948, nine during 1947, and 11 in 1946.

"A boxer doesn't have to be knocked out or have his skull broken to be seriously injured. He may suffer pinpoint hemorrhages or other harm to his brain not outwardly apparent even to the trained physician.

"These injuries can result from any hard blow to the head. Pinpoint hemorrhages caused by the concussion from a hard blow may destroy nerve tissues. Brain tissues do not heal as do other tissues of the body.

"Some parts of the brain can suffer destruction of a small amount of tissue without immediate paralysis or changes in behavior. These injuries are permanent. As more are received they will contribute to loss of mental powers or bodily control.

"Doctors who have pointed out the dangers of organized mayhem based on scientific observations over the years are only permitted on the sidelines as members of advisory boards and as medical examiners dependent for their fees on the whims of politicians. Use of doctors has the effect of furnishing a phony respectability to an otherwise dubious activity.

"The participants for our 'sport' of professional boxing come from the thousands of high school boys and young men in college who engage in amateur boxing. This has become so highly organized through vast intercity tournaments that the only division between professional and amateur boxing is the funnel by which the first is supplied with manpower from the great reservoir of the second. They are both part of the same picture."

BOOK REVIEWS

Psychosomatic Medicine. The Clinical Application of Psychopathology to General Medical Problems: By Edward Weiss, M.D., Professor of Clinical Medicine, Temple University Medical School; and O. Spurgeon English, M.D., Professor of Psychiatry, Temple University Medical School. New, (2nd) edition. Pp. 803. Price, $9.50. Philadelphia: W. B. Saunders Company, 1949.

This excellent volume of the clinical application of psychopathology to general medical problems is an indispensable textbook for general practitioners, as well as a timely reminder to psychiatrists of the necessity of the proper utilization of already available knowledge in every day practice of psychiatry. It is an excellent book for teaching residents in psychiatry the art of understanding psychosomatic medicine. This book contains many chapters of interesting material.

We wish to congratulate the authors for the interesting and clear way of presenting the material in each individual chapter. We were particularly pleased with the contents of the chapters on "General Principles of Psychotherapy", "Normal Problems of Psychotherapy", and "Training in Psychosomatic Medicine".

This should be one of 1949's most indispensable books for any medical man who wishes to be prepared to meet a very frequent problem of his practice.

Psychiatry in General Practice. By Melvin W. Thorner, M.D., D.Sc., Assistant Professor of Neurology, Graduate School of Medicine, University of Pennsylvania. Pp. 659. Price, $8.00. Philadelphia: W. B. Saunders Company, 1948.

Dr. Thorner has written this book primarily for general practitioners and various specialists, who do not attempt to separate the body from the mind of their patients. He avoids technical terms as much as possible. The book presents very easy and interesting reading material. The text is interesting and understanding even for many laymen.

The various chapters contain subjects of

great interest to all students. We were greatly pleased reading Chapter 14 about children. In Chapter 18 the author takes the patients' views. In Chapter 19 the author describes the various types of chemo and physiotherapy. In Chapter 20, he tells briefly all the essentials of shock and related therapy, and finally in Chapter 21 he describes very clearly psychotherapy.

We highly recommend this book to all interested in medicine.

Modern Clinical Psychiatry. By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital, Norristown, Penna. Third edition, Pp. 525. Price, $6.00. Philadelphia: W. B. Saunders Company, 1948.

This excellent textbook of Modern Clinical Psychiatry, should be in every hospital library. It is particularly a valuable book for internes and residents.

The third edition of Dr. Noyes's textbook deserves an enthusiastic reception. In Chapter 23 the author describes very clearly the various types of psychoneuroses. Chapter 31 contains the essential data about psychotherapy.

We highly recommend this valuable textbook to all students in medicine.

Psychiatry for Nurses. By Louis J. Karnosh, Sc.D., M.D. Third Edition. Price, $8.50. St. Louis: C. V. Mosby Company, 1949.

The third edition of Dr. Karnosh's excellent textbook for nurses should be read by every nurse who expects to practice her profession successfully. The author describes very clearly all phases of mental diseases and various abnormal human reactions.

We are very glad that this author has included an interesting chapter on "Psychiatry and Law". The material in this chapter is very valuable to nurses. In Chapter 37 the author describes the essentials of child guidance, mental hygiene in adolescence, and in the community. The author also describes various phases of psycho-surgery.

Psychobiology and Psychiatry. By Wendell Muncie, M.D. Second Edition. St. Louis: C. V. Mosby Company, 1948.

This is an excellent textbook of normal and abnormal human behavior. It should be one of the essential books in every hospital library and practicing physicians' bookshelf.

This volume describes clearly and understandingly the various human normal and abnormal reactions, carefully analyzing many types of human behavior. Particularly in Chapter VI, the student can easily understand the various major reactions.

We sincerely recommend this textbook to physicians interested in the fundamentals of psychiatry.

Occupational Therapy Source Book. By Sidney Lichty, M.D. Baltimore: Williams and Wilkins Company, 1948.

The author very interestingly presents the historical data of occupational therapy. The pamphlet cites passages from Dr. William S. Hallaran's book: "Extended Observations on the Cure of Insanity", published, 1810; Dr. Benjamin Rush's book on "Medical Inquiries and Observation upon the Diseases of the Mind", published, 1812; Samuel Tuke's "Description of the Retreat, an Institution Near York, for Insane Persons", York, 1816; Dr. Jean - Etienne - Dominique Esquirol's "Mental Maladies", published in Paris, 1838; F. Leuret's book "On the Moral Treatment of Insanity", published in Paris, 1840; Felix Voisin's "Idiocy Among Children", published in Paris, 1848; Dr. Thomas Story Kirkbride's book "On the Construction, Organization and General Arrangements of Hospitals for the Insane", Philadelphia, 1880; and Dr. Eva Charlotte Reid's "Ergotherapy in the Treatment of Mental Disorders", Boston Medical and Surgical Journal, 1914.

It is very interesting reading for any student who should consider occupational therapy as one of the important mediums in the treatment of a physically or psychiatrically ill person.

The Battle of the Conscience By Edmund Bergler, M.D., Washington Institute of Medicine, Washington, D. C. Baltimore: Monumental Printing Co., 1948.

This excellent book is a psychiatric study of the inner workings of the conscience. The author describes very clearly the origin of the pre-stages of conscience, and the normal and neurotic feeling of guilt. The latter chapter will clarify in the minds of many laymen,

psychologists, and others the true concept of neurotic guilt. We recommend this book as an excellent adjunct for teaching resident internes in general and psychiatric hospitals.

Trends of Mental Disease. By American Psychopathological Association. New York: King's Crown Press, New York, 1945.

This booklet on Trends of Medical Disease contains very valuable statistics, which may be utilized by the student researchers. Astonishing figures reveal the future trends of mental disease in the U. S. A. In Section 3 authors Braceland and Rome describe very adequately the trends of mental disease in the Navy.

War, Politics, and Insanity. By C. S. Bluemel, MA., M.D. Denver: The World Press: 1948.

This little book on War, Politics, and Insanity is written very interestingly for professional men and women as well as laymen. The various chapters are described vividly, such as the Causes of War, the Problem of Leadership, the Common Disorders of Personality, Psychiatry and History, and finally the last chapter where the author tries to praise the present concept of democracy.

This book should be read by politicians, lawyers, sociologists and others who are interested in good politics.

Though we do not agree with many points expressed by the author particularly in Chapter 11, The Future of Democracy, we still believe that this is a good book and should be widely distributed by psychiatrists to their patients and friends.

Nutrition and Diet in Health and Disease. By James S. McLester, M.D., Professor of Medicine, University of Alabama, Birmingham. New, 5th edition. Pp. 800. Price, $9.00. Philadelphia: W. B. Saunders Company, 1949.

This book has been brought up to date, and gives the latest observations and clinical data on practically every subject related to nutrition and diet in health and disease.

The vitamins to date are thoroughly discussed and explained, with great emphasis on deficiency diseases due to A vitaminosis.

The chapters dealing with diseases of the digestive organs and diabetes mellitus naturally are outstanding, since this work deals primarily with nutrition and diet. Here Dr. McLester gives the general practitioner all the fundamental and latest information, replete with charts and diets arranged with simplicity, so that it becomes a most useful reference work, written in a style that continuously holds the reader's interest.

Truly a remarkable book.

Geriatric Medicine—The Care of the Aging and the Aged. Edited by Edward J. Stieglitz, M.D. Attending Internist, Suburban Hospital, Bethesda, Maryland; Doctor's Hospital, Washington, D. C. New, 2nd edition. Pp. 773, with 180 figures. Price, $12.00. Philadelphia: W. B. Saunders Company. 1949.

This is the second, revised, illustrated edition of this work which has been treated under the following subdivisions: General Consideration; Disorders of Metabolism; Disorders of the Mind and Nervous System; Disorders of the Respiratory System; Disorders of the Circulatory System; Disorders of the Alimentary System; Disorders of the Genitourinary System; Disorders of the Skeletal System; Disorders of the Cutaneous System.

The first edition was published in 1943, and in the five year interim geriatric medicine has continued to grow, both in importance and knowledge. The editor has been assisted in the preparation of this edition by forty-six contributors who are eminent in their special fields of medicine to guide and advise practicing physicians, general practitioners and specialists alike.

The present revision has been extensive, though the general plan of the book remains the same. Geriatric medicine is so large a field, cutting across the various specialties of modern medical practice, that an adequate presentation requires the knowledge and experience of many authorities. Geriatric knowledge is needed by all who see older patients whether as general practitioners or specialists. Considerable new material has been added, particularly in connection with care and guidance of the so-called normal aging and aged patients.

The book contains much valuable information to guide any physician who treats aging patients. It is a book we can heartily recommend.

1789—MEDICAL SOCIETY OF DELAWARE—1949

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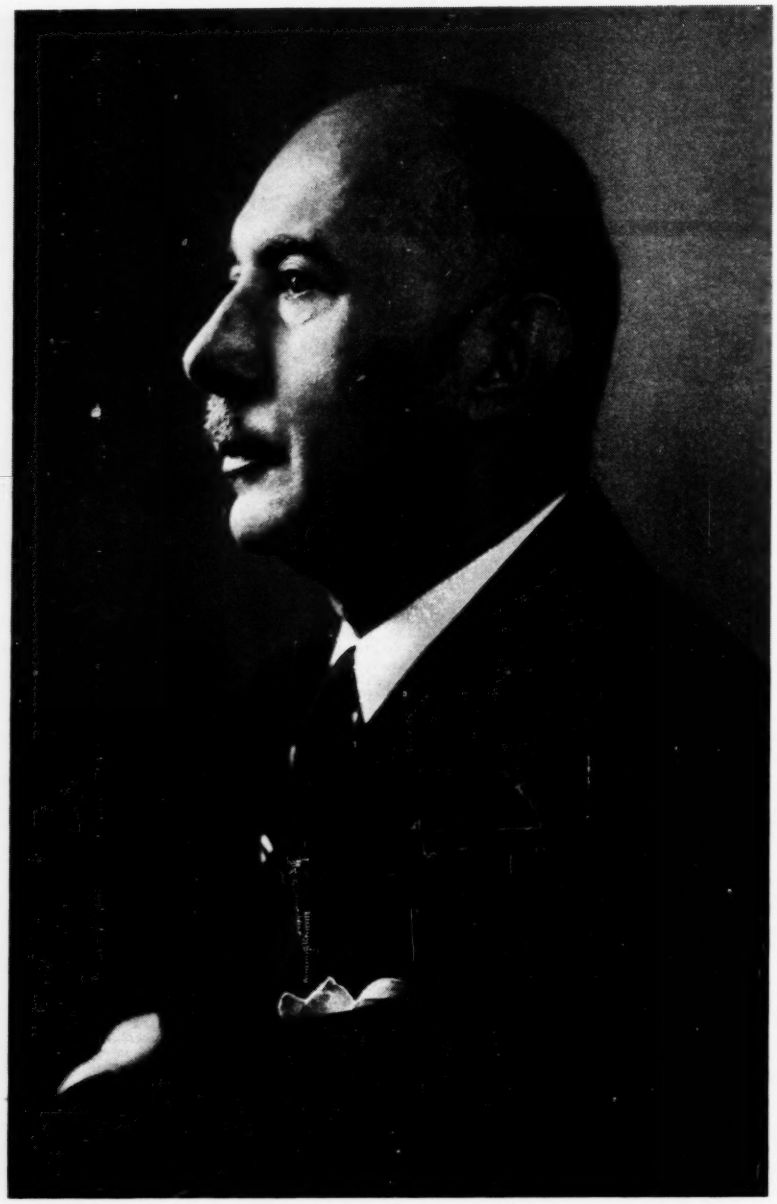

M. A. TARUMIANZ, M.D.
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1949